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ABSTRACT

This combination teaching guide and student workbook, the first in a five-volume series (see note), presents an approach to teaching horticulture for handicapped students. The guide discusses a functional approach to modifying agriculture programs to accomodate cognitive, affective, and psychomotor (CAP) domain handicaps. The discussion centers on categories to consider when modifying a course, the CAP model of instruction which includes assessment, possible teaching techniques, and suggested change actions, to alleviate handicapping conditions once the limits of a dysfunction are known. General comments on how to modify a program are also included. The workbook includes teacher instructions and photographs accompanying the seven basic tasks presented for step-by-step learning by doing. Tasks include a three-piece candle arrangement, cutting and dipping foam, corsage making, and using a floral stemming machine. Appendixes contain data on part-time and seasonal employment, employment and education needs in Wisconsin, references, and a list of U.S. universities that offer horticulture therapy programs. (CP)

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THE CAP APPROACH TO MODIFYING VOCATIONAL PROGRAMS FOR HANDICAPPED STUDENTS

VOL. 1 AGRICULTURE WITH AN EXAMPLE IN HORTICULTURE

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TABLE OF CONTENTS

Page

Section One

A Functional Approach to Modifying Agricultural Programs

The Need for Modifying Agriculture Programs 1

CAP Identification Approach 1

Model - The CAP Approach to Functional Deficits 3

CAP Model of Instruction 7

Cognitive Domain 7
Affective Domain 12
Psychomotor Domain 18

Making the CAP Model Work 20

Section Two

Modifying A Horticulture Program

Setting an Example 21

How Much Modification is Needed 23

Student Workbook 23

Cassette Tape 24

Additional Help 24

Student Workbook

Cutting and Dipping Blocked Foam
Teacher Instructions 26

Cutting and Dipping Blocked Foam 1*

Three-Piece Candle Arrangement
Teacher Instructions 5a

Three Piece Candle Arrangement 6

Taping Flowers for a Corsage
Teacher Instructions 11a

Taping Flowers for a Corsage 12

*The page numbers in the Student Workbook section of the Teacher's Manual are the same as those in the Student Workbook; therefore page numbers at this point begin again at page one.

Table of Contents (cont.)

Page

Stemming Artificial Materials with a Machine
Teacher Instructions 19a

Stemming Artificial Materials with a Machine 20

Making a Bow
Teacher Instructions 27a

Making a Bow 28

Making a Corsage
Teacher Instructions 38a

Making a Corsage 39

Pricing Artificial Material
Teacher Instructions 55a

Pricing Artificial Material 56

Appendixes

Appendix A

Full Time Wisconsin Agricultural Occupations 60

Part-Time and Seasonal Wisconsin Agricultural
Occupations 60

Appendix B

Part-Time and Seasonal Employment Needs for 74 Horticultural
Businesses in Northeast Wisconsin 62

Appendix C

Employment and Educational Needs for 74 Horticulture
Businesses in Northeast Wisconsin 64

Appendix D

Some Horticultural References for Working with
Handicapped Students 66

Appendix E

Universities in the United States which offer
Horticultural Therapy Programs 70

SECTION ONE

A FUNCTIONAL APPROACH TO MODIFYING AGRICULTURAL PROGRAMS

THE NEED FOR MODIFYING AGRICULTURE PROGRAMS

There are handicapped students in every school district who could be employed in agribusiness and production agriculture occupations if the appropriate education was provided. This volume discusses the various issues involved in teaching handicapped students in agricultural courses, identifying characteristics of handicapped students, how to teach handicapped students and how to identify jobs which handicapped people can do in agricultural occupations. The first section of this volume describes a functional approach to educating handicapped students and the last section presents an example in horticulture of how to use the approach.

During the last few years we have seen handicapped people enter many agricultural occupations and succeed. We have also observed that the majority of agriculture and other vocational courses at the secondary and post-secondary level are not modified to accept handicapped students into the regular classroom.

Recent legislation has mandated that access to secondary and post-secondary vocational education programs be provided to handicapped persons. Agribusiness and production agriculture education are included in this mandate. Before discussing where handicapped people fit into agriculture courses and where employment can be found, the prospective handicapped students should be identified.

CAP IDENTIFICATION APPROACH

The letters CAP stand for the Cognitive, Affective and Psychomotor domains as they relate to disabilities. This approach is an attempt to limit the categorical labeling of handicapped students and look at the

strengths and needs of individual students. Labeling a student as mentally retarded, visually or physically impaired creates an image of disability and tells nothing of the student's strengths. Labeling is a barrier to learning and employment and does not promote the employable skills which the student possesses. The chart on page 3 shows the relationship of the CAP Domain to the traditional labeling categories.

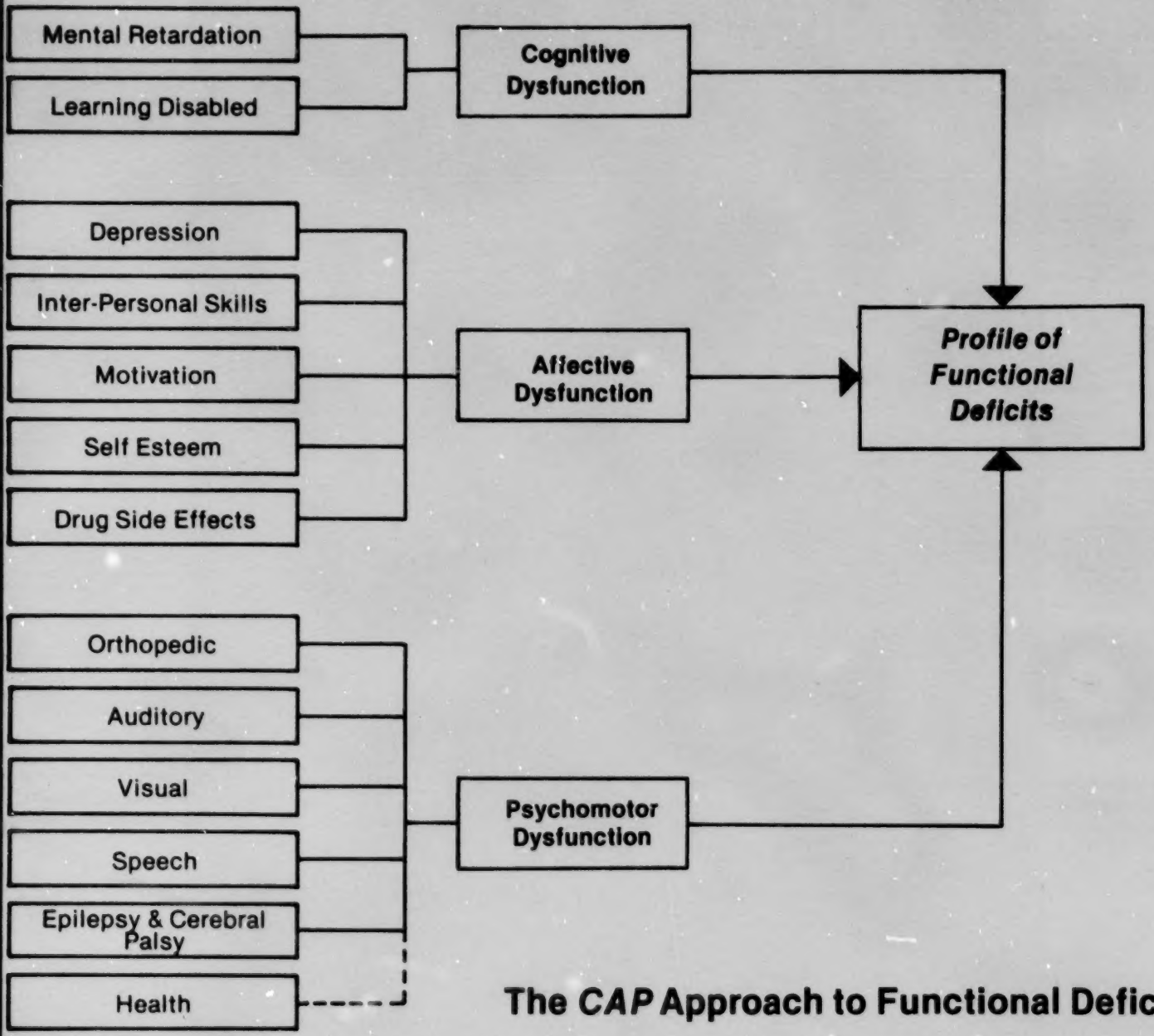
Furthermore, handicapped students do not have disabilities which are sharply defined in one disability area. Students labeled as mentally retarded may have learning disabilities, hearing or visual disabilities or any combination of these or other disabilities. Physically impaired students may have emotional, learning or other disabilities.

Before discussing the CAP Model and its functions, a list of categories to consider when modifying an agriculture course for handicapped students is provided. Modifications in all categories may not be necessary, however those modifications needed to help the handicapped student succeed in the regular classroom or laboratory must be made.

Categories to Consider when Modifying an Agricultural Course for Handicapped Students

A. Assessment and Evaluation Results
   1. Do any exist?
   2. Are they available to me?
   3. Do I have the skill necessary to utilize them?

B. Students' Employment Goals
   1. interests
   2. aptitudes
   3. prior work experience
   4. current functional job skills
   5. job skills needed - number and type
   6. supervision issues - what is likely to be available vs. what the person needs
   7. potential stress factors



The *CAP* Approach to Functional Deficits

The *CAP* Approach to Functional Deficits

Cognitive Dysfunction

MENTAL RETARDATION

Mental retardation refers to significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period (American Association on Mental Deficiency, 1973).

Mild - IQ 55-69. Retardation occurs mainly because of environmental (culture, family) reasons although minimal brain damage and other medical factors (where damage is not severe) can contribute to the level of dysfunctions. Adequate social and communication skills can be developed.

Moderate - IQ 40-54. Retardation occurs mainly because of medical causes. Can learn to talk and communicate but have problems in social awareness.

Severe - IQ 24-39. Retardation occurs because of medical causes. It is accompanied by poor motor development. Learning elementary speech and health habits is possible; functional academic skills are not.

Profound - IQ 0-23. Cause of retardation is medical resulting in extreme physical and mental deficiencies. Frequently institutionalized for activities of daily living.

LEARNING DISABLED

Disorders in one or more of the psychological processes involved in the understanding or using of the spoken or written language. Disorders may occur in listening, talking, reading, writing, spelling, or doing mathematics and may be perceptual handicaps, brain injuries, brain dysfunctions, dyslexia, or developmental aphasia.

Affective Dysfunction

DEPRESSION

Depression is a mental disorder characterized by little emotion, sadness, slow mental and physical activity, fatigue, despondency, feelings of worthlessness and dejection. Students suffering from depression may show any combination of these symptoms in the classroom.

INTERPERSONAL SKILLS

Students who have learned inappropriate ways of dealing with other individuals frequently show the following behaviors: difficulty in dealing with criticism, disruption, manipulation, difficulty in working in group situations, and unwillingness to conform to rules and regulations. These behavioral problems can be overcome by instilling proper interpersonal skills.

MOTIVATION

A student's motivation may be considered factors which drive him/her, thereby stimulating him/her to perform thus affecting the intensity and persistence of that effort. Problems of motivation may be manifested in attendance and punctuality problems, erratic performances generally well below the students' capabilities, a high rate of distractibility, a negative or irresponsible attitude towards work, little concern over performance and much time and effort spent in unconstructive ways.

SELF ESTEEM

Self esteem can be described as the extent to which an individual feels good about him/herself. Students with low self esteem usually question their worth or values as human beings, tend to be negative and anxious, lack self-confidence, are failure oriented, unassertive and have low performance standards and vocational goals.

DRUG SIDE-EFFECTS

Many people find themselves in situations in which they are bored, frustrated, lonely and face excessive stress. Drugs can be prescribed to counteract these moods but these drugs have side-effects that affects a student's performance. Common examples of drug side-effects are drowsiness, blurred or double vision, nausea, memory impairment, coordination difficulties, confusion, dizziness, hyperactivity and thirst. These problems can be alleviated by prescribing smaller dosage or alternative medications for the student.

Psychomotor Dysfunction

ORTHOPEDIC

The orthopedically impaired person is one who has a crippling impairment which interferes with the normal functioning of bones, joints, and muscles to such an extent that special arrangements must be made by the school. Individuals who are victims of polio, arthritis, and muscular dystrophy fall into this category.

AUDITORY

Persons with auditory handicaps may have difficulty in hearing in one or both ears or may not hear at all. Hard of hearing persons are classified as having slight, mild, or marked losses and are educated through the auditory channel after compensation is made for hearing loss. Deaf persons are classified as those with severe losses and are educated primarily through sense modalities other than the ear.

VISUAL

Vision impaired persons are classified for educational purposes into two categories - the visual impaired who can read print and the blind who can learn to read braille.

SPEECH

Speech defects can be grouped to include disorders of articulation and voice, stuttering, and speech disorders associated with hearing loss, cleft palate, mental retardation and cerebral palsy. Speech clinicians can deal with speech, language problems and related communication disorders.

EPILEPSY AND CEREBRAL PALSY

Epilepsy and cerebral palsy directly proceed from brain activity. Epilepsy is a neurological condition caused by abnormal discharges to the brain resulting in one of four kinds of seizures: Grand Mal, petit mal, Jacksonian and Psychomotor. Cerebral palsy, caused by damage to the brain during or shortly after birth, results in ineffective control of muscles by the brain, thus restricting a person's motor activities.

HEALTH

Health impaired persons are those with special health problems e.g. rheumatic fever, congenital heart defect, diabetes, respiratory disorders (cystic fibrosis, asthma, tuberculosis) and hemophilia. These health impairments, though not strictly psychomotor in nature, do restrict a students' movements and activities in the classroom.

8. physical demands
9. transportation factors

C. Occupational Information
1. availability
2. accuracy
3. utility

D. Modification in the School's Physical Plant
1. classroom
2. labs
3. equipment
4. accessibility
5. lavatories

E. Course Content
1. number of objectives - skills - concepts to be taught
2. tasks, subtasks which operationalize objectives
   a) number
   b) success criteria
   c) requisite conditions of performance
3. time constraints
4. reading levels required
5. math levels required, if applicable
6. order of presentation
7. rate of presentation

F. Lesson Plans
1. selection and sequencing of tasks-subtasks
   a) for use by entire class
   b) for use by individual students

G. Text, Manual, Workbook

H. Teaching Materials and Aids for Teacher Use

I. Learning Materials and Aids for Teacher Use

J. Classroom Management Procedures

K. Teaching Procedures
   1. for use with entire class
   2. for use with the handicapped student on an individual basis; techniques for providing feedback concerning performance

L. Testing Student for Mastery of Course Material
   1. content
   2. procedures

M. Recordkeeping
   1. type
   2. quantity

N. Grading and Techniques of Monitoring Progress: Types, Criteria

O. Emotional Climate of Classroom
   1. feelings of non-handicapped students
   2. feelings of handicapped students
   3. teacher's feelings

P. Supportive Services
   1. types required
   2. availability
      a) in-house
      b) outside agencies

Q. Coordination of Professional Services to Student: Role Definition
   1. in-house professionals
   2. outside agencies

R. Administrative Policy
   1. class placement
   2. grading and graduation requirements
   3. support services
   4. time factors
      a) open entry-exit

b) fixed enrollment periods
c) limits for completion

S. Employer Contact - Job Placement: Student's Role
1. job seeking skills
2. interviewing skills

T. Follow-Up
1. role definition
2. planning

A review of the above categories shows that much information about the student may be needed to make an intelligent decision on what to modify. The task involves not only an individual teacher but other teachers, administrators, employers, community members and, of course, the handicapped student. The CAP Model of Instruction provides the change action needed to carry out the modification process.

CAP MODEL OF INSTRUCTION

Much difficulty has been encountered by teachers who try to modify each specific course for each specific disability area. There is much overlap in the techniques used and duplication of effort slows down the educational process. The CAP Model deals with the teaching and learning problems encountered in working with handicapped people. The three CAP domains, characteristics of each domain and change action needed for teaching students with disabilities in each domain follow.

Cognitive Domain

Cognitive disabilities prevent a student from understanding and learning what is being taught in an agriculture classroom. Persons with full cognitive ability are able to know in a general sense, perceive, remember, judge, reason and recognize. Agricultural teachers need to be aware of the characteristics of persons who have cognitive disabilities and how to compensate for a lack of cognitive ability. Cognitive disabilities can be observed in the classroom or laboratory setting. Some

of these behaviors are listed below along with the change action needed for overcoming or compensating for the behavior.

Observed Behavior: *Inability to learn from an auditory, visual or tactile teaching mode.*

Change Action:

- Provide learning experiences in more than one mode. Present the material in the course using visual, auditory and tactile modes.

Visual Teaching Techniques

- Practice having the student visualize in his or her mind the item or concept to be learned.
- Use flash cards. Flash cards are usually thought of as teaching aids for early reading and mathematics courses. The technique can be used effectively in vocational courses. For example, picture cards showing a sequenced breakdown of the steps needed for replacing a fan belt, installing an additional electric outlet, or planting a tree could be developed.
- Help the student learn to study by stressing techniques such as underlining with various colors, making notes to themselves, or using acronyms to trigger mind pictures in connection with sequences or lists. Look at words and say them. Use outlines to organize thoughts.

Auditory Teaching Techniques

- Use cassette tapes to record classroom instruction and let the student use the tapes. Have other students read aloud to the poor reader who is an auditory learner. Have the student try to connect sounds with the material being learned. Say the words or concepts out loud. Read slowly. Try to hear the answer.

Tactile Teaching Techniques

- Provide hands-on activities so that the student can see and touch the materials or items you are talking about.

Demonstrate the process or task which you wish to teach the student.

Observed Behavior: *Inability to use the information given in a correct or acceptable manner.*

Change Action:

- Individual practice may be given on making decisions, receiving information and deciding a course of action. Individual guidance through classroom or laboratory situations will help as will role playing and practice in providing acceptable responses to requests.

Observed Behavior: *Not able to follow directions.*

Change Action:

- Be consistent in giving directions by using the same words and same sequence. If this doesn't work, try giving the same directions in a different format or making a written list of directions. Be sure to have the student demonstrate or provide evidence that he/she knows what you expect.

Observed Behavior: *Not able to remember.*

Change Action:

- Be systematic. Break the subject material into the simplest tasks and present one task at a time and relate each new task to each completed task. Teach in more than one mode, (visual, auditory, tactile). Demonstrate and use examples. Provide repetition in completing the task. Periodically review and show the student the relationship of the task to an actual job situation.

Observed Behavior: *Exhibits poor problem solving skills.*

Change Action:
- Show the student how to analyze the problem. Show him or her how to identify possible solutions, evaluate these solutions and choose the most appropriate solution. Provide plenty of clues and provide opportunities for successes.

Observed Behavior: *Exhibits poor observation skills.*

Change Action:
- Point out significant details, similarities and differences. Have students practice doing the same. Prepare and show students examples of poor, acceptable and excellent work. Provide situations and games in which students can practice using their observation skills.

Observed Behavior: *Lacks ability to study.*

Change Action:
- Techniques used for helping the audio, visual and tactile learner will help. Encourage the student to set aside a time and place to study and help initiate a positive attitude toward study. Provide class time or other supervised study periods. Help students to use short time study periods to accomplish their tasks.

Observed Behavior: *Possesses very low reading and writing skills.*

Change Action:
- Dramatic improvements in the reading and writing skills of students in secondary and post-secondary agricultural class are not likely to occur during the length of the course. The objective should be to improve the reading and writing ability as much as possible. Developing a glossary of words related to the vocational subject area and having the student learn

them and their meaning will help the student learn the course material and at the same time enhance reading and writing skills. Enrollment of the student in special reading classes is advisable. If this is done, be sure to 1) provide the special reading teacher with the glossary of words, 2) inform the teacher of the minimum reading levels which you desire and 3) explain the problems which you are having in teaching the student.

The student may not be able to learn to read due to a severe cognitive disability. In this case, use non-verbal teaching modes such as tape cassettes, demonstrations and hands-on activities.

Observed Behavior: *Possesses low math skills.*

Change Action:

- Like reading and writing skills, low math skills may not improve significantly during the length of the course. It is therefore important that the course time be used to make progress in math skills and do the best possible job in teaching the minimum math needed for the course. In a private conference, explain the needed skills to the student and ask the student to enroll in math instruction which would upgrade his or her skills. Discuss the math requirements of your course with the math teachers and ask them to stress the necessary concepts in their math classes.

Observed Behavior: *Completion of tasks is very slow.*

Change Action:

- The change action suggested for other behaviors may be appropriate for the slow worker. The optimum level at which a student should perform should be determined. Material which is too easy or too hard for the student may not be challenging enough. If the material is too hard, frustration may

occur. Develop practice and repetition to speed up work. Keep concepts to be learned to a minimum and reinforce the concepts. The quality of the work should be high even though the quantity is low. Employers demand quality first, but may make some concession on quantity of work.

Observed Behavior: *Judgmental ability is poor or lacking.*

Change Action:

- The change action techniques used for following directions, problem solving and using information also apply to judgmental ability. Provide activities which will give the student practice in making judgmental decisions.

Observed Behavior: *Lack of self-confidence.*

Change Action:

- Cognitive disabilities tend to decrease a student's self-confidence. Conversely, helping a student compensate for cognitive disabilities will improve self-confidence. Be sure to provide many successes for the student and use congratulation and praise to reinforce successes.

Students who display one of these behaviors periodically may not have serious cognitive problems. Consistent behavior in these areas denotes a cognitive disability and calls for the evaluation and change of teaching techniques and instructional materials.

Affective Domain

Students with affective disabilities may have serious problems relating to other people or to the performance of everyday living and coping skills. The affective disability may be emotional in nature and

interfere with the student's learning process. Affective disabilities are usually not highly visible. There is usually no concrete evidence to suggest the intensity of the disability or to know how long the disability has been present. Recognizing affective disabilities and developing teaching strategies should be a major objective. Poor performance in the classroom may indicate a problem related to depression, interpersonal skills, self-esteem, motivation or drugs. These behaviors are listed below along with change action for overcoming or compensating for the behaviors.

Observed Behavior: *Depression. Depression is an affective disorder characterized by lack of emotion, boredom, moodiness, fatigue, slow mental and physical activity and an inability to make decisions. Personal appearance may deteriorate, attendance and classroom performance may drop and the student may withdraw from normal activities.*

Change Action:

- Ask the student to come in for a conference to privately discuss his or her classroom performance.
- Try to identify the nature of the depression. It may be as simple as getting more rest and cutting down on extra-curricular activities. Frustrations or a series of frustrations may be causing the problem.
- Listen to the student's perception of the cause of the depression and find out how long the problem has persisted.
- Lend your support to the student. Let him or her know of your concern and that you are willing to help out with the problem. Altering classroom or laboratory situations, providing successful experiences, relieving stress, providing more or less peer interaction, providing time schedule alterations and alternative paths to the instructional goal may help.
- If the problem persists, help the student seek professional assistance from mental health personnel.
- Volunteer to cooperate with professionals in guidance, mental health and other areas to help overcome the disability.

Observed Behavior: *Lack of interpersonal skills. Some lack of interpersonal skills may be manifested as difficulty in dealing with criticism, class disruption, hygiene problems, failure to follow safety and classroom rules and regulations and poor relationships with peers. These problems undoubtedly extend beyond the classroom.*

Change Action:

- Do not hesitate to ask for help from community and school resources. These resources may include guidance counselors, special education teachers and administrators.
- Identify the specific problem or area which needs improvement. For instance, Joe does not follow safety rules and is constantly dirty and poorly groomed.
- Evaluate your tolerance level and expectations regarding appearance, social skills and behavior of student toward peers. Is it realistic for the student to comply to your expectations? Is compliance necessary for classroom functioning or maintaining employment?
- Talk with the student at a private conference and specify your expectations. Let the student know that you expect improvement. Offer your assistance to the student initially and followup that offer periodically.
- Provide positive feedback to the student as progress is made toward solving the problem.
- Confer with other teachers and professionals and work jointly with them to achieve solutions to the problem.

Observed Behavior: *Lack of self esteem. Self-esteem can be described as the extent to which an individual feels good about himself or herself. Students with high self-esteem tend to be confident, assertive, optimistic, persistent and relatively free from anxiety. Students with low self-esteem may question their worth or value as a human being, lack self-confidence, be negative, show anxiety, be failure oriented, seek excessive teacher help and exhibit low classroom performance.*

Change Action:

- Improve the student's self-awareness by pointing out strengths and positive qualities.
- Provide the student with success experiences.
- Provide support and encouragement when attempting new or difficult tasks.
- Provide praise for his or her accomplishments.
- Develop opportunities for other students to see and be aware of his or her accomplishments and bring peer recognition to these accomplishments.
- Help the student schedule courses in which he or she can capitalize on strengths.
- If a student has mastered a task, ask him or her to help others who have not mastered the task.

Observed Behavior:

Lack of motivation. Motivation is not easy to define, but it does have much to do with a student's classroom and laboratory performance. Motivation is normally centered around a student's needs, goals, aspirations and ambitions. A student may perform well in a classroom or laboratory because he or she is working toward a vocational goal or some other area held in high esteem.

Students who lack motivation may exhibit poor attendance, perform below ability, be highly distractable and have a negative attitude toward work. It would be desirable to have a private conference with an individual exhibiting this type of behavior. At the conference, the student's goals, vocational plans and reason for being in the class should be explored.

Change Action:

- Attempt to show the student the relevancy of the course to future employment possibilities.
- Show if possible, the progress already achieved by the student.
- Provide encouragement and support to the student and offer to help.
- Make sure that the course content is relevant to the needs of the student.

- Stimulate interest by conducting field trips to business and industrial sites which employ people with the kind of skills which are learned in the course.
- Try alternative ways to motivate students. Consider verbal praise, challenges, individual attention and increasing the responsibilities of the student.

Observed Behavior: *Legal drug use. Legal and illegal drugs are being used by your students. The legal drugs may be purchased over the counter or by prescription. Legally prescribed drugs may include barbituates, sedatives, tranquilizers, antidepressants and amphetamines. These drugs may have side effects upon your students which are visible in the classroom. For example, antihistamines are used to control the symptoms of hay fever. Frequently, drowsiness is a side effect of this drug. Side effects of other drugs may result in blurred or double vision, nausea, memory impairment, coordination difficulties, confusion, nervousness, hyperactivity and thirstiness. It is obvious that any single or combination of these side effects can hinder a student's performance. Hopefully, the teacher will be informed of the use of the drug and the possible side effects.*

Change Action:

- Do not suggest that a student discontinue or modify the use of the drug.
- At a private conference, discuss with the student the problems which you have observed. Offer to work with the student and make the necessary alterations in your teaching strategy to help accommodate the student.
- If the use of the drug will create a safety hazard, it may be appropriate to discuss the situation with the student's physician. The discussion should fully inform the physician as to specific safety hazards and the specific student behavior.

Observed Behavior: *Illegal drug use. Illegal drugs permeate every section of our society, including our classrooms. These illegal drugs are classified by the effect which they have upon people. The four classifications are depressants, stimulants, hallucinogens and opiates.*

Behavior of drug users is varied. Some of the same characteristics displayed by the use of legal drugs may be apparent. Other symptoms may be the strong emotional displays, frustration, depression and anger. Loneliness, alienation and impulsive behavior may also be apparent. You may see evidence of thrill seeking and resentment of authority.

Change Action:

- Become knowledgeable about drug abuse, prevention of drug abuse and how to work as an individual in a school setting to assist in decreasing and preventing drug abuse. (See References in Appendix.)
- Initiate, with the help of other staff and administration, school drug abuse and prevention programs.
- Be a personal non-drug using model to show that lifestyles do not need to include illegal drug use.

Observed Behavior: *Use and abuse of alcohol. Alcoholism is the number one drug problem in our schools. Alcoholism is not only the number one school problem but has an equally high abuse rating among staff, parents and community members in general. Absenteeism, deteriorating personal appearance, drop in academic performance, tardiness, decreasing judgment, odor of alcohol on breath and even coming to school intoxicated are indications of alcohol abuse problems.*

Change Action:

- Become knowledgeable about alcohol abuse and prevention and learn to work as an individual in a school setting to decrease use and abuse of alcohol. (See References in Appendix.)

- Initiate school alcoholism prevention programs to assist students, staff and parents.
- Be a personal example of a successful lifestyle without the use of alcohol.

Observed Behavior: *Nicotine ingestion through the smoking of tobacco. Medical evidence concerning the health hazards from smoking tobacco is steadily increasing. Tobacco consumption among school-age students is widespread and is a factor which promotes future health problems.*

Change Action:
- Become knowledgeable about the dangers of smoking tobacco. Information can be obtained through the American Cancer Society, State Lung Associations and the American Lung Association. Materials and brochures about smoking tobacco can also be obtained from these organizations for distribution to students.
- Initiate school programs on the hazards of smoking tobacco. Involve and cooperate with other staff and administrators to inform students, staff and parents of the smoking hazards.
- Be a personal example of a successful lifestyle without the use of tobacco.

Psychomotor Domain

Observed Behavior: *Psychomotor disabilities stem from problems with mobility, stamina, strength, coordination, large and small muscle control, vision, hearing or a dysfunction in brain activity. Health or speech impairments may be included. Psychomotor disabilities restrict a student's performance in the classroom, laboratory and on the job.*

The main objective in working with students with psychomotor disabilities is to develop teaching strategies, alter the physical environment and develop equipment which helps the student compensate for the disability. Most of the students

attending the secondary or post-secondary vocational classes have had their psychomotor disability over a period of time, perhaps all of their lives. These students will be able to express their problems and identify the activities in which they will be able to participate or in which some kind of alteration will be necessary.

Change Action:

- Make appropriate physical facility modifications. This might include modifying doors, doorknobs, water fountains, telephones, providing ramps instead of stairs, bathroom facilities, desks, tables, laboratory equipment and other items to make the classroom and equipment accessible to wheelchair students and students with other limited mobility impairments.
- Provide eyeglasses, contact lenses, magnifiers, telescopic lenses, optical and electronic enlargers and braille marked books for the visually impaired. Use of cassette recorders and typewriters will be helpful for visually impaired students.
- Minimizing unnecessary sounds will help in the instruction of hearing impaired students. Use of sound, vibration and touch will strengthen the instruction. Use of interpreters for the deaf should be provided. Seat hearing impaired students to their best advantage and be sure the teacher stands with the available light shining on his or her face. Use plenty of visual aids and slow the pace of communication when necessary. Give a non-hearing impaired student a carbon paper to take notes for a hearing impaired student. Glossaries of difficult words should be provided ahead of classtime to allow for familiarization of course terminology.

MAKING THE CAP MODEL WORK

Developing successful programs for handicapped students in agriculture will take additional time and finances. It will be necessary for the agriculture teacher to work closely with the handicapped students and involve administrators, employers and parents in the process. Open entry and exit courses are desirable. This will allow sufficient time for handicapped students to complete the task of learning employable skills.

Handicapped students need to know what is expected from them in the classroom and on the job. Employers expect quality work from their employees and handicapped persons should be expected to maintain quality. However, some concession on the quantity of work may be tolerated for a select period.

Job placement for handicapped students needs to be explored early in the course of the student's agriculture program. Handicapped students, especially those with learning impairments, will require more time in learning employable skills. It is important that time not be spent in teaching outdated skills or skills which are not employable. Cooperation between the teacher and employer will help the teacher to develop a curriculum which will provide the handicapped student with employable skills.

Teachers can work with employers to help redesign jobs around the tasks which the handicapped student can do. For example, if a job contains twelve tasks and the handicapped student can do only eight, the job could be restructured around those eight tasks. The remaining four tasks could be performed by a non-handicapped employee. Job redesign is relatively new and holds much promise as a method of achieving employment for handicapped students.

The Cognitive, Affective and Psychomotor domains of the student cannot be isolated when planning vocational programs. The student's strengths in each CAP area must be utilized to develop a vocational program which provides handicapped students a chance to learn employable skills.

SECTION TWO

MODIFYING A HORTICULTURE PROGRAM

SETTING AN EXAMPLE

An example of how employment opportunities in agribusiness can be identified and how vocational programs can be modified for handicapped students was carried out by project staff. A study on determining adult agribusiness training needs in Northeast Wisconsin by Myrick (1978) provided a basis for exploring agribusiness employment for handicapped students.*

Lakeshore, Moraine Park, Fox Valley and Northeast Wisconsin Technical Institutes cooperated with Myrick in identifying over 9,000 agribusinesses in the four technical institute areas. There were 26 full time and 30 part time and seasonal agribusiness occupations identified in the four Wisconsin Vocational, Technical and Adult Education Districts. The full time and part time and seasonal agribusiness occupations are listed in the Appendix.

Included in the study were the employment and educational needs of the agribusinesses. Charts showing these needs can also be found in the Appendix.

From the list of agribusiness occupations, the area of horticulture was chosen as an area in which to identify jobs which handicapped people could perform. Although the area of horticulture was selected, each of the other areas have jobs which could be identified by the same process as was used in the horticultural business.

With the help and cooperation of a local vocational technical school, a horticulture business was selected and the owner was contacted and asked to help in the process of identifying employable skills which could be

* Myrick, Joe J. Determining Adult Agribusiness Training Needs In Northeast Wisconsin. Final Report, Project Number 11-035-151-22B. Cleveland, Wisconsin, Lakeshore Technical Institute, 1978.

performed by handicapped students. Full cooperation was obtained from the owner of a retail florist operation.

The next step was a series of visits by project staff and vocational technical school personnel to the business site to identify tasks which a handicapped person could perform. It was decided that tasks would be selected which could be learned by a person with low cognitive abilities, some affective disabilities and impaired psychomotor disabilities such as being confined to a wheelchair.

This student would require a major amount of modification of vocational program and job redesign. In observing the florist operation, project staff found many tasks which could be performed by our hypothetical student. The following tasks were selected to be taught to our handicapped student.

1) Constructing a three piece candle arrangement,
2) cutting and dipping foam,
3) taping flowers for a corsage,
4) making a bow,
5) corsage making,
6) pricing, and
7) using a floral stemming machine (Picking).

The florist shop owner believed that a person possessing these skills would be employable on a part time basis in the florist industry. These tasks are performed literally hundreds of times per day during peak operation periods in many greenhouses.

A task analysis was done on each of the seven tasks to determine each step necessary to perform the task. Each step was then photographed and captions describing each step developed. Instructions for use by the teacher were also developed. Agricultural teachers, greenhouse operators and others can use the materials to teach these employable skills to students with low cognitive ability.

It should be remembered that the purpose of the authors is to show a process for the development of teaching strategies and not provide a full course. The process of identifying employable tasks is open-ended as is the learning of the handicapped student. The possibilities of employment are also nearly endless. Much depends upon the imagination, ingenuity and attitude of the agricultural teacher.

HOW MUCH MODIFICATION IS NEEDED?

A student with high level CAP functioning may be able to construct a corsage by simply looking at a picture and making a similar corsage. As cognitive and other abilities decrease the amount of teacher help and modification in teaching strategies increases. Students with low cognitive ability may be able to do only the task of taping flowers for the corsage. (See picture 8 of the Taping Flowers For a Corsage.)

The task of taping flowers may be repeated up to twelve times for each corsage. An order for 200 corsages would require 2,400 individual tapings. A handicapped person who could perform this task efficiently would most certainly possess an employable skill which would be in demand by florist businesses. A person possessing this skill plus a few additional skills would be able to have at least part time employment. The continuous learning of tasks over a period of time should result in sufficient skills for full time employment. Ongoing instruction by vocational teachers for handicapped students is therefore essential. The instruction should include the teaching of new tasks, the upgrading of outdated tasks and continuous attention to job redesign.

STUDENT WORKBOOK

The student workbook and cassette tape are designed for teaching a low cognitive functioning student. The amount of modification needed will decrease as cognitive ability increases. The cassette tape will be useful for students with visual and learning problems. In the psychomotor domain, the tasks could be accomplished by wheelchair students by making the facilities accessible to the student, however, sufficient finger dexterity is

necessary to do the taping of flowers for a corsage. The construction of the three piece candle arrangement would not require as much finger dexterity.

There are numerous affective benefits related to the work setting. Therapeutic benefits such as improved confidence and self-esteem can develop from creating corsages and candle arrangements and the making of bows. There is also an opportunity for self-expression, and relief from tension, frustration and aggression. The work setting can also increase powers of observation and stimulate the handicapped person's sensory perception.

The student workbook should be used to the extent necessary to teach the tasks. Change action ideas discussed earlier may be incorporated into the curriculum when and where they would be appropriate.

On the following pages are the visuals which were developed for use by the handicapped student. These are the same visuals used in the separate student workbook with the exception of the teacher instructions. The instructions have been developed as a teaching aid and may be used in conjunction with the teaching of each applied floral skill. The picture and page numbers in this publication corresponds with the picture and page numbers in the student workbook.

CASSETTE TAPE

The cassette tape which accompanies the workbook may be used in a variety of ways. The student may use it as a study aid, or it may be used as a laboratory teaching aid for learning an individual task.

The pauses on the tape allow sufficient time for the student to turn the page, but are not necessarily long enough to perform the directions given for each photograph. The tape may be stopped at any point for any length of time, depending upon how it is being used.

ADDITIONAL HEL

Horticultural references for working with handicapped students and a list of some of the universities which offer horticultural therapy programs can be found in the appendix.

Student Workbook

Vol. 1 Agriculture With An
Example In Horticulture

Cutting and Dipping Blocked Foam
Teacher Instructions

Picture 1 Knives are used most often to cut floral foam as they leave a clean smooth edge. Saws leave a ragged edge on the piece of cut foam.

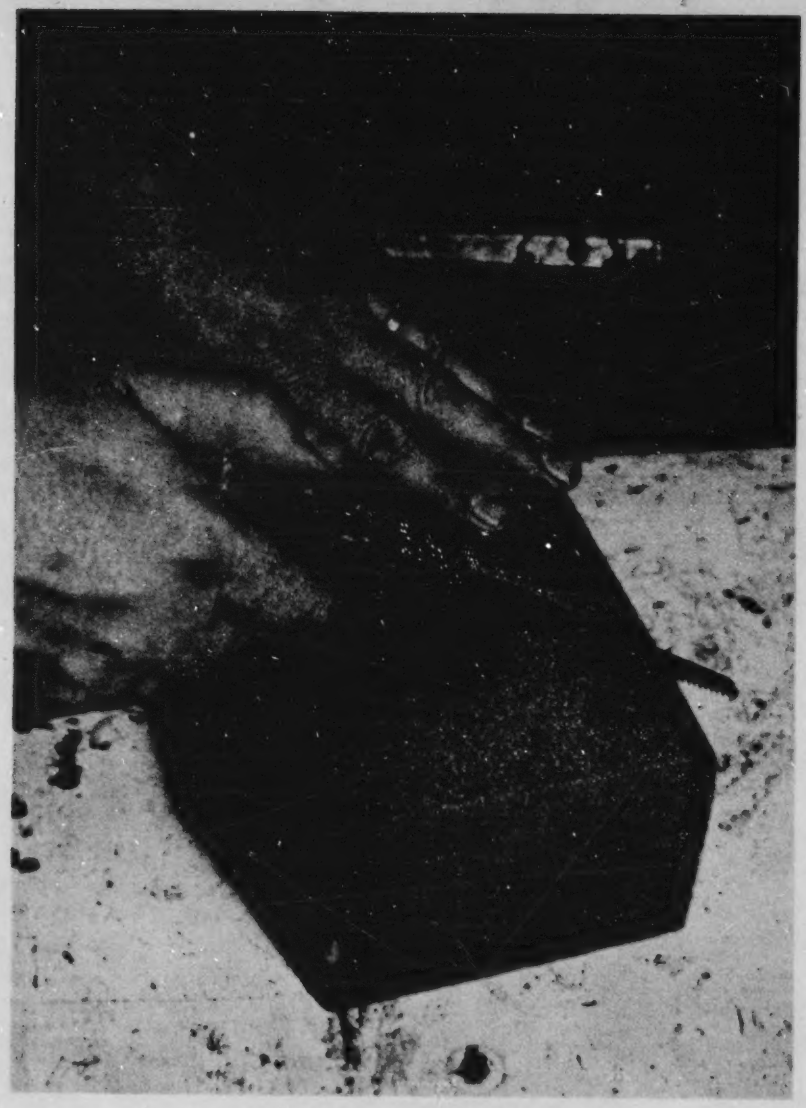
Picture 2 Suggestion: The students should be instructed to use great care when working with the hot wax to prevent tipping of the pan or scalding.

Picture 3 No special instructions.

Picture 4 An alternate method used by some florists is to tape the foam block to the container. This eliminates the mess and potential hazard of using hot wax.

Picture 5 In the cutting and dipping operation, the step holding the greatest potential for error will be cutting the foam block to the correct size. This will require some practice of the part of the student. It would be wise for the student, after cutting the foam block, to check for correct size by placing the block in the container before dipping it into the hot wax. There are two types of floral foam used in flower arrangement; one type which is used for arranging fresh flowers, and styrofoam which is used for arranging artificial and dried material.

Cutting and Dipping Blocked Foam



Picture 1

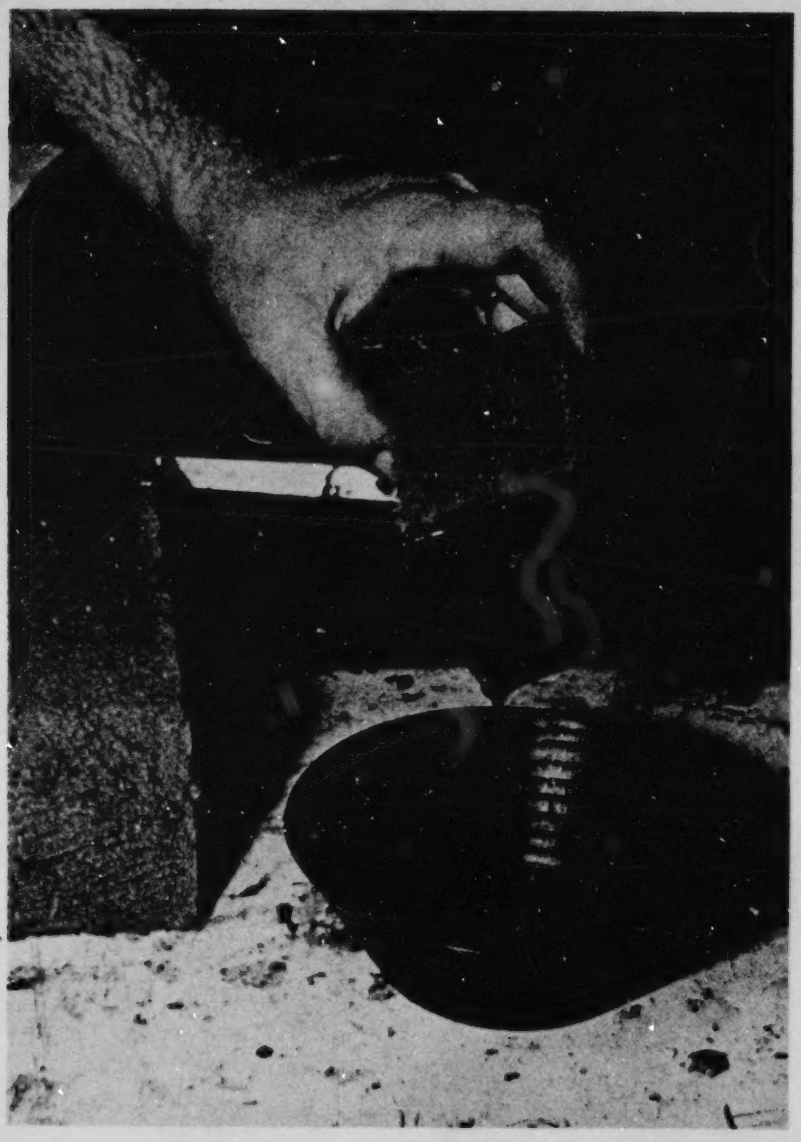
To cut a piece of foam you will need a small saw or knife and a block of floral foam. Cut the back of the foam with the knife or saw into the size you need. Cut it to fit the container into which it will be placed.

Picture 2

Pick up the piece of foam near the top and dip the bottom end into the hot wax. In this picture the hot wax has been melted in an electric frying pan to keep the wax at an even temperature.

Picture 3

This picture shows you what the bottom of the foam looks like after it has been dipped into the wax.



Picture 4

Move the dipped foam block over to the container into which it should be placed.

Picture 5

The dipped foam block should then be pushed firmly into the bottom of the container. After it cools, the foam will stick tight to the container. Now the foam block is ready for the next step in flower arrangement.

Three-Piece Candle Arrangement
Teacher Instructions

Picture 1 A prism candle can be identified by the indentation on the underside of the candle. It is designed this way in order to accomodate the small spike in the middle of the container into which it will fit. The wick is found at the top of the candle.

Picture 2 It is suggested that you urge students to exercise caution when working around the hot wax solution. It is only necessary to dip the candle 1/8" to 1/4" into the wax.

Picture 3 No special instructions.

Picture 4 No special instructions.

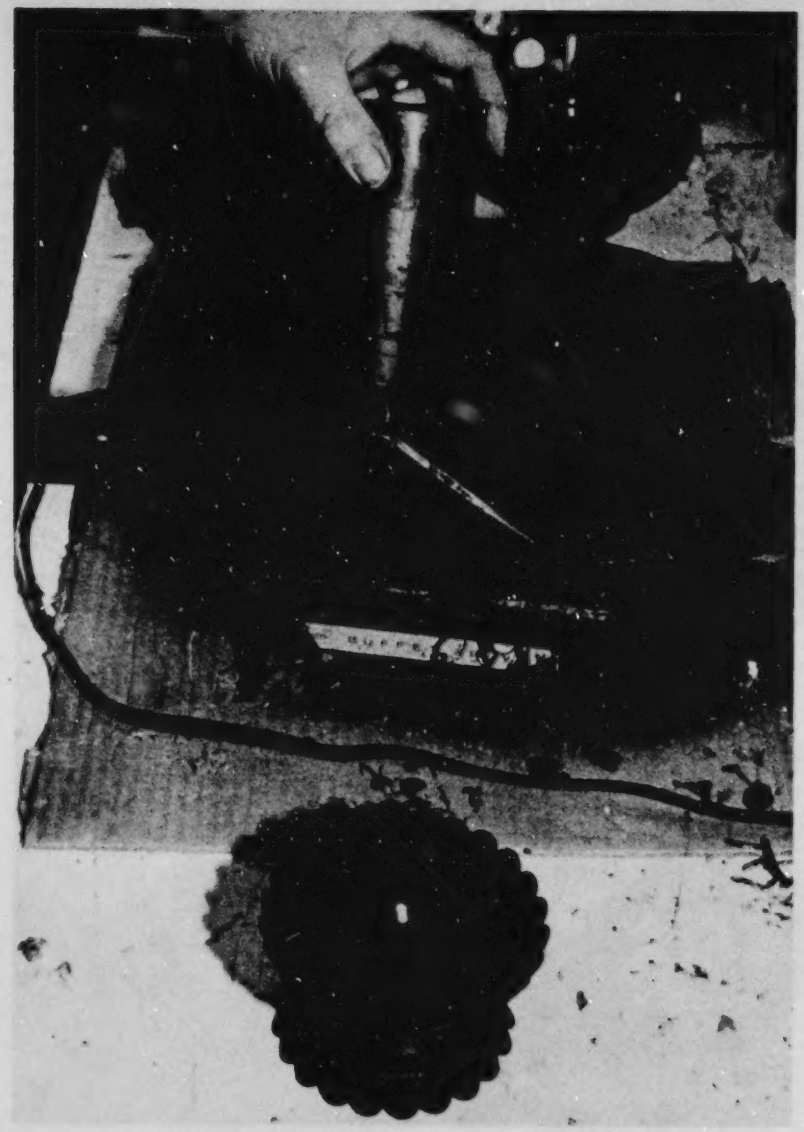
Picture 5 No special instructions.

Picture 6 Suggestion: It might be helpful to the student to view and discuss a variety of candles and candle rings which are used for different seasons and holidays throughout the year.

Three-Piece Candle Arrangement

Picture 1

In this picture you will see three things you need to make a candle arrangement: the container, a prism candle, and a candle ring. This candle ring is made of artificial nuts, berries, pinecones, leaves and pine needles.



Picture 2

Holding the candle by the top, dip the bottom of the candle carefully into the hot wax. You want most of the wax on the *bottom* of the candle, so do not dip the candle all the way into the wax.

Picture 3

Immediately place the candle into the container. Make sure that the hollow part in the bottom of the candle fits over the small spike in the middle of the container. In this picture you will see that there is very little wax on the sides of the candle—JUST A THIN LINE. You don't need to have a lot of wax on the sides of the candle.

Picture 4

You can see in this picture that the candle sticks to the container after the wax cools.

42

Picture 5

Pick up the candle ring and put the hole in the ring over the top of the candle.

Picture 6

Slide the candle ring down over the candle and press it firmly in place. The three piece candle assembly is now ready to be displayed and sold.

Taping Flowers for a Corsage
Teacher Instructions

Picture 1 Pictured are the three basic elements needed to wire and tape a corsage:

a.) floral tape which is green in color and similar to wax impregnated crepe-paper.

b.) the top portion of a miniature carnation flower.

c.) florist wire which comes in three sizes: #30 which is a very light wire, #24 which is pictured here, and #22 which is a wire used for heavier flowers such as roses. Florist wire is either bright or annealed, the latter being coated with a green paint-like covering. Suggestion: The instructor should make certain the students understand the word corsage.

Picture 2 The wire is inserted through the flower directly above the calix, which is the little round ball immediately inside the base of the flower. It is recommended that the term "base of the flower" be reviewed with the students.

Picture 3 It is suggested that hairpins or enlarged drawings of hairpins be shown to the students to demonstrate the type of bend to be used in this step. It may be necessary for students to practice this step so that the bend is begun in the proper place in order to assure that the ends of the florist wire are even at the bottom. It is important that the wire be bent tightly against the sides of the flower.

Picture 4 The tape must be stretched onto the flower and wire stem. The wire is guided with the index finger while the other hand twists the flower and stem. Stretching the tape assures a tight, smooth adhesion. Students might be encouraged to practice this technique (without the flower or with flowers which are intended to be discarded) until they become proficient and comfortable with the two-handed operation.

Picture 5 Overlapping during the taping process is important to insure an airtight product. It is recommended that you teach the explanation and teach the technique of overlapping.

Taping Flowers for a Corsage
Teacher Instructions (Cont.)

Picture 6 This photo shows progressive taping movement down the stem. The tape must be held and pulled tightly at this point to insure a smooth, thin stem.

The students should be instructed that touching the flower will bruise the petals. Three things will contribute to bruising:

1) natural oils found in the skin (taping should be done only with clean, dry hands)
2) dirt
3) other foreign substances on the fingers (glue, ink, etc.)

Fresh flowers must not be laid on porous material or surfaces as this will "burn" the flower by drawing natural oils from the petals, leaving a brown spot. This is why fresh flowers are always wrapped in wax or plastic materials.

Picture 7 It might take some practice on the part of the student to know how (diagonal or straight) and where (so it won't be too long or short) to cut off the tape and make a neat, finished-looking stem end.

Picture 8 The finished product shown has been incorrectly taped as there is a portion of the flower base which has not been fully covered by the tape. This does not make it an airtight product and it would necessarily have to be retaped in order to make it useable. It is very important that the tape be pulled tightly with the thumb and forefinger as it is being wrapped around the stem.

Taping Flowers for a Corsage

Picture 1

In this first picture you will see three things you needed to tape a corsage: the tape, a flower top and a piece of wire.

Picture 2

Pick up the wire and stick it through the base of the flower, about halfway up the base. The flower should be in the middle of the wire.

Picture 3

The wire is then bent like a hairpin pointing down tightly against the sides of the flower. The flower was in the middle of the wire before you started bending it, so the ends should be even at the bottom.

Picture 4

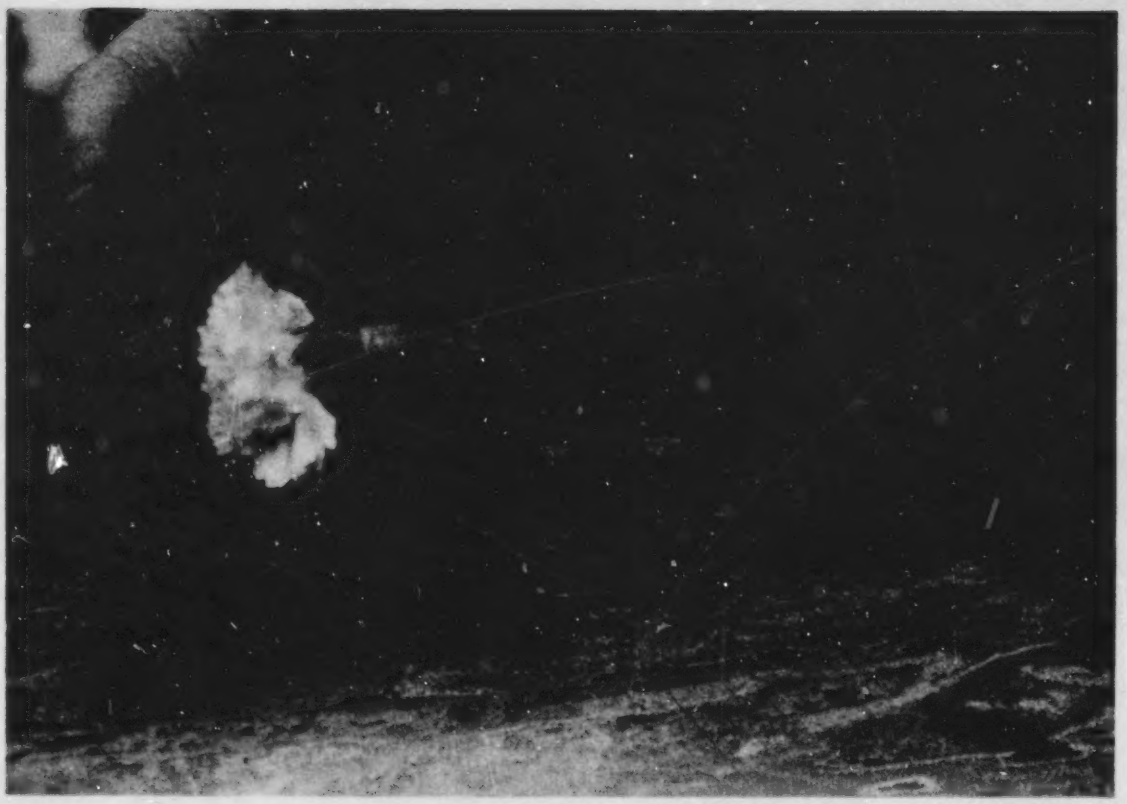
This picture shows you how to begin taping. You will need both hands to do this. Be sure that your hands are clean and dry. Hold the tape between your thumb and forefinger. Turn the flower and wire stem with your other hand as you begin to put on the tape.

Picture 5

The next picture shows you how to keep on taping around the flower stem once you have started. Each time the tape winds around the stem, you should overlap it a little bit. That way none of the flower or wire will show through the tape.

Picture 6

Here you can see what the flower looks like after it has been taped halfway down the stem. The hand that holds the tape moves around the wire stem and down toward the bottom of the two wires. Be sure to pull the tape tightly and do not touch the flower.



Picture 7

This is what the flower should look like after it is all wrapped with tape. The tape will have to be cut off at the bottom of the stem and pressed together to make the bottom look neat.

Picture 8

This last picture shows the flower and wire stem after it has been all taped. In this picture you can see that where the flower meets the stem there is a place that was not covered by the tape. It should have been. This spot would have to be taped over again.

Stemming Artificial Materials with a Machine
Teacher Instructions

Picture 1 The terms *stemming* and *picking* are interchangeable. Materials to be picked can be fresh, dried or artificial. The materials in the following set of photographs are artificial.

Picture 2 No special instructions.

Picture 3 It is suggested that the terms *base end* and *jaws* be reviewed with the students.

Picture 4 It is difficult but not impossible for the operator to get his or her fingers caught in the machine.

Picture 5 An electric floral stemming machine is used by some florists. Insertion of the material into the jaws of the machine automatically causes feeding and crimping of the metal pick.

Picture 6 No special instructions.

Picture 7 The material is evenly spaced around the foam to form a round cluster.

Picture 8 It is suggested that a variety of floral arrangements and their various components be viewed and discussed.

Stemming Artificial Materials with a Machine

Picture 1

In the middle of this photograph you will see a floral stemming machine. On the left side of the machine is artificial material which does not have a pick on it. The material on the right has had a pick put on each of the pieces. You will use the machine to put the picks on the material.

Picture 2

Here you see a close-up picture of a metal pick, two pieces of material which do not have picks on them, and one piece of material which has had a pick attached to it by using the machine. The machine wraps the tabs of the metal pick around the base of the material. The pointed end of the material can then be stuck into styrofoam blocks when making a flower arrangement.

Picture 3

The base end of the artificial material is put onto the jaws of the floral stemming machine. The word jaws is used because the two parts of the machine will come together.

Picture 4

Hold the material in the stemming machine with one hand. With the other hand pull the handle of the machine toward you. Be very careful not to put your fingers near the jaws of the machine.

Picture 5

This picture shows you how the machine feeds a pick through and wraps the tabs of the pick around the base of the material when the handle is pulled. When the handle is pushed back again, the material can be taken out of the machine.

Picture 6

This picture shows several different types of artificial material which can be used to make a floral arrangement. Notice that each of the pieces of material has had a pick attached to it by using the machine.

Picture 7

The person in this picture is starting to put together a floral arrangement. He is sticking the pointed end of the picked material into a foam block.

Picture 8

In this picture you can see that the first step in making the floral arrangement has been completed. The next step would be to add one of the other materials that you saw in picture 6. Many different kinds of artificial materials can be added to an arrangement like this one.

Making A Bow
Teacher Instructions

Picture 1 All ribbon has two sides, the front and the back. The front of the ribbon is shinier than the back. It is very important that your students keep the shiny side facing them when they are making a bow.

Picture 2 This initial step of half-twisting the ribbon may prove to be confusing to the student. It is suggested that the student be given ample demonstration and opportunity to practice this step before he/she goes on to the next step.

Picture 3 No special instructions.

Picture 4 The shiny side is automatically kept toward the student when giving the ribbon a half-twist.

Picture 5 The size of the bow will be determined not only by the number of loops made, but also by the size of the loops. Shorter, more compact loops will yield a smaller bow.

Picture 6 No special instructions.

Picture 7 It is likely that the student will not know what a 45°angle cut is. This slanted cut will have to be explained and demonstrated. A florist ribbon shears is used for a sharp, clean diagonal cut.

Picture 8 It is suggested that bending the florist wire be a pre-bowmaking activity. It will take some practice on the part of the student to make a correct hairpin bend, making sure that the ends of the wire are even.

Picture 9 Note that the wire, when slipped around the middle of the bow, sits above the thumb and forefinger of the hand which is still holding the bow. Depending upon whether the student is right or left-handed, the end of the florist wire could be sticking out to the right or left of the bow.

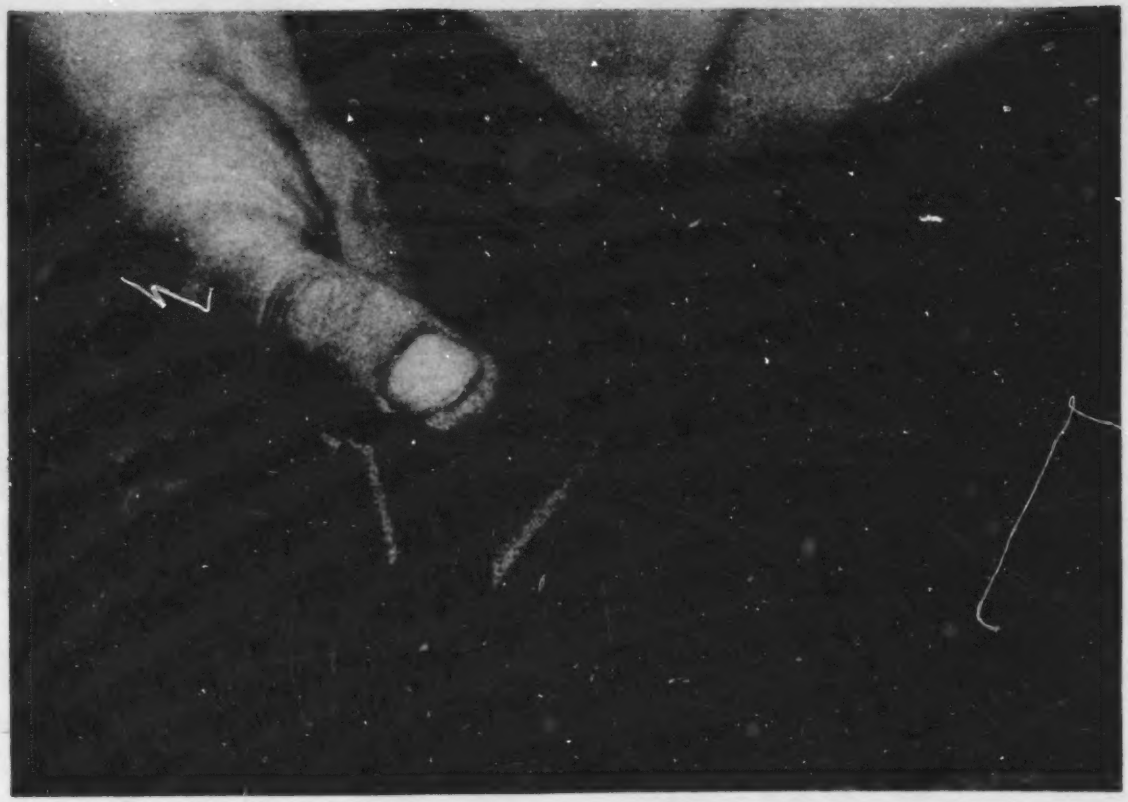
Picture 10 If the wire is not pulled tightly enough and twisted close enough to the base of the bow, the bow will not have proper flair and will be too close.

Picture 11 At this point, the wire stem is taped with florist tape so that it is attractive and will not injure or damage the clothing of the wearer.

Making A Bow

Picture 1

This first picture shows you how to begin making a bow. Pinch the ribbon between your thumb and forefinger two or three inches from the end of the ribbon.

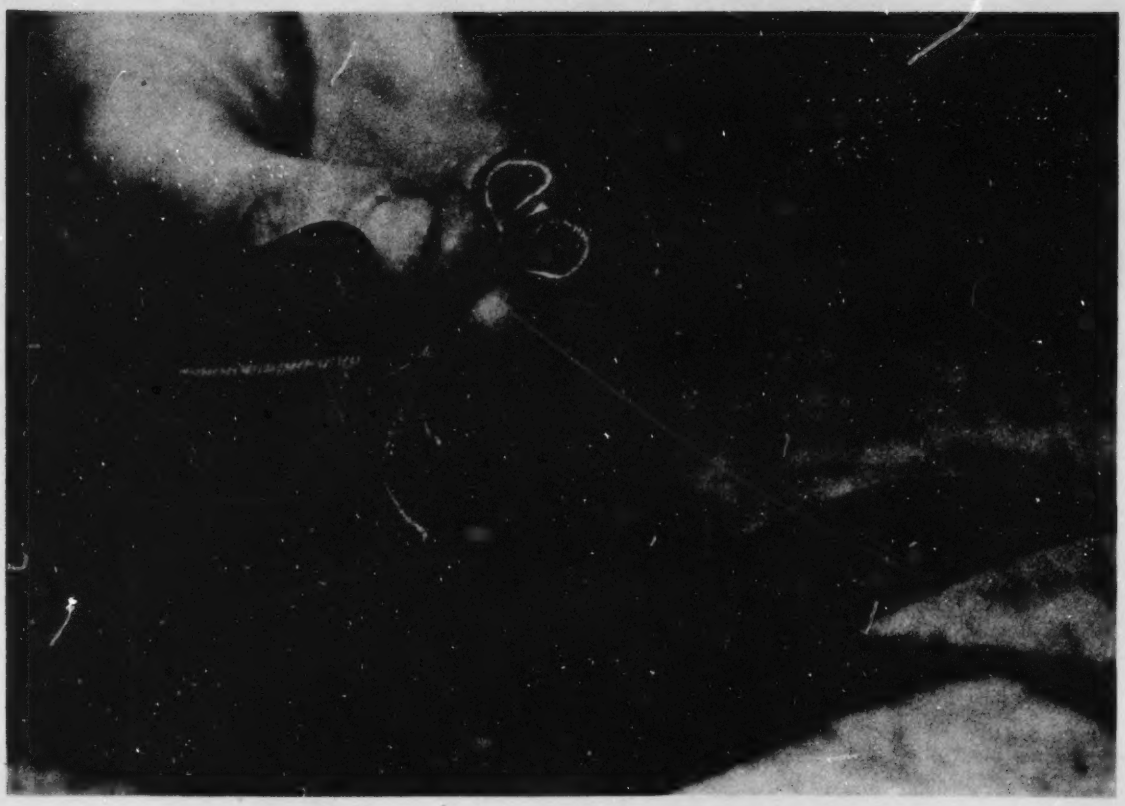


Picture 2

With your other hand grasp the ribbon and give it a half twist. make sure the shiny side is toward you. Pinch the end of the ribbon you have just twisted between your other thumb and forefinger like you did before. Now you should have two sections of the ribbon pinched between your thumb and forefinger, like this picture shows you.

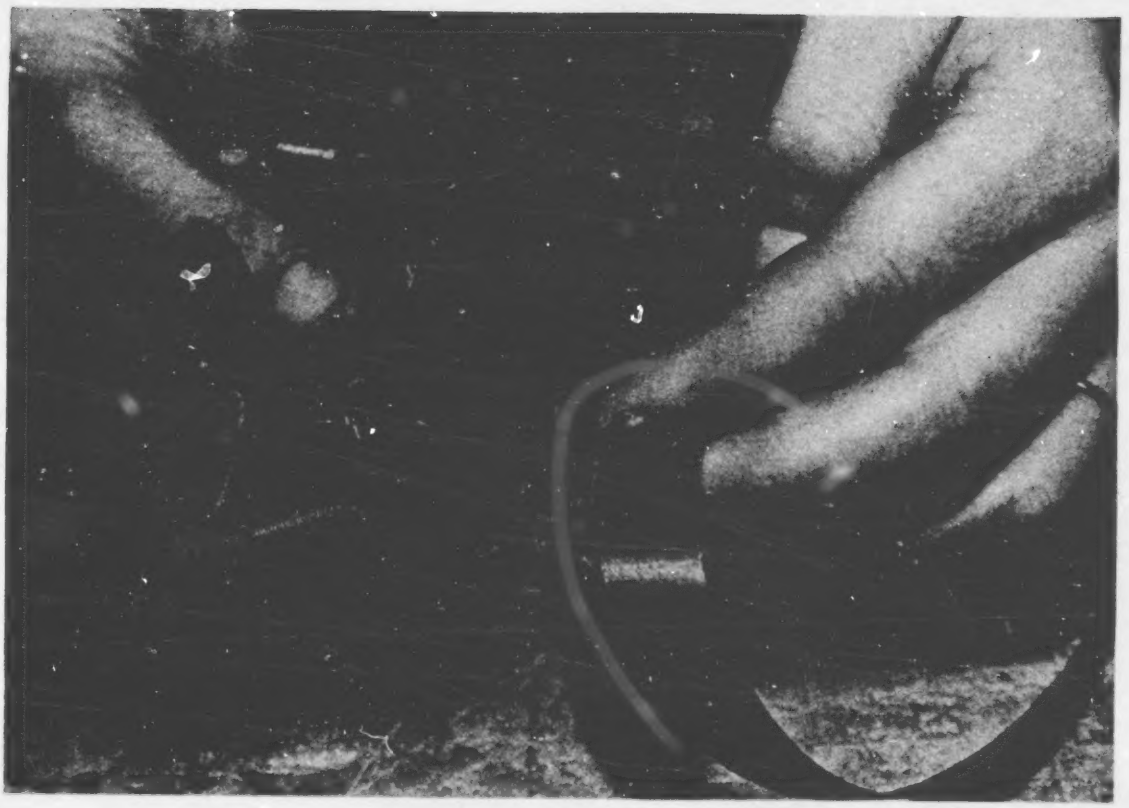
Picture 3

Your ribbon should look like this after you finished the last step. This part of the bow is called a loop.



Picture 4

Now make another loop for the other side of the bow. Make the loop the exact same way you made the last one. Give the ribbon a half-twist, *making sure the shiny side is toward you.* After you make the loop, pinch the ends together with your thumb and forefinger like you did before. Then the loop will not come apart. The second loop should look like the one in the picture.

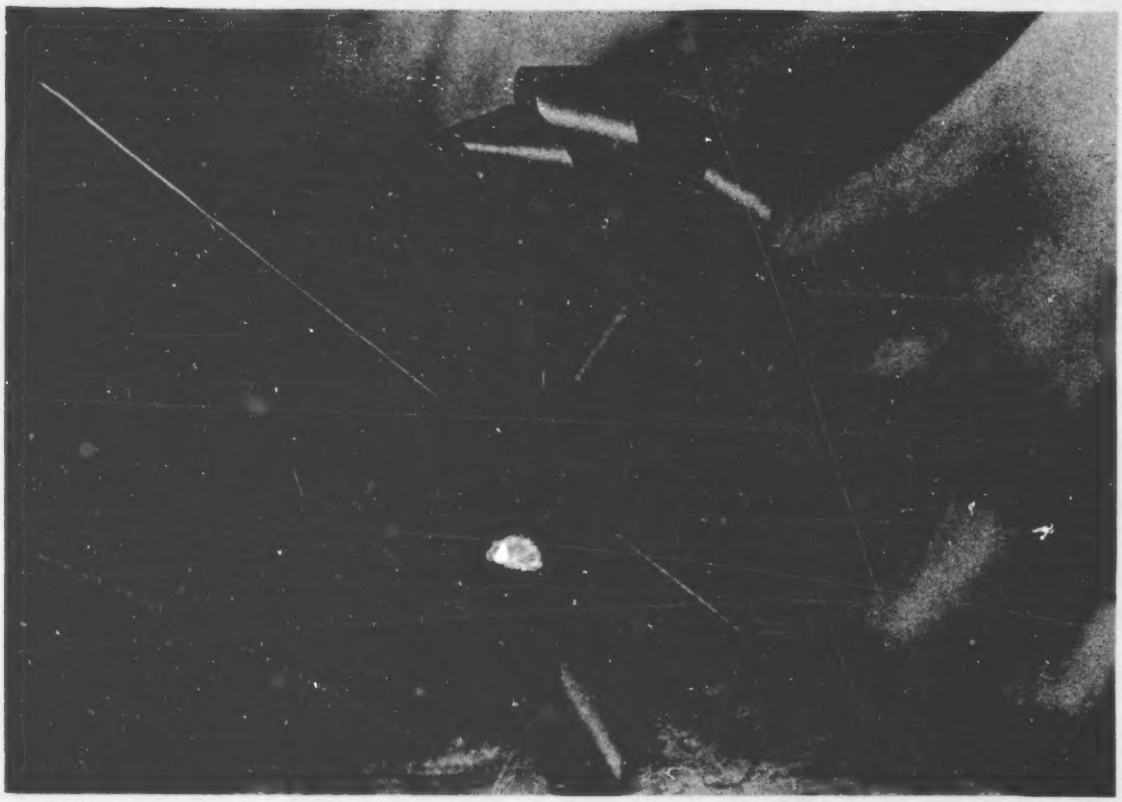


Picture 5

You can make as many loops as you want. If you make lots of loops, the bow will be bigger; if you don't make very many loops, the bow will be smaller.

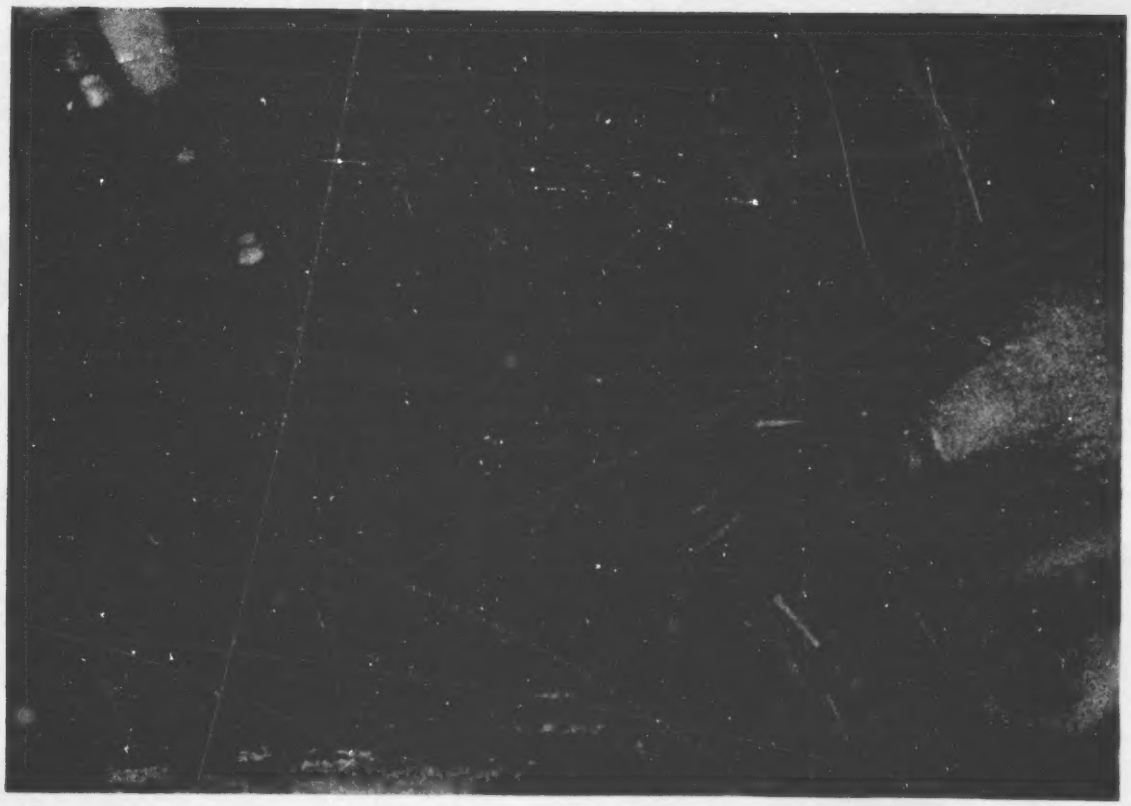
Picture 6

This is a picture of a bow that is big enough. The person who is making it does not want it to be any bigger or smaller than it is. You must hang on tightly to the bow so it does not come apart.



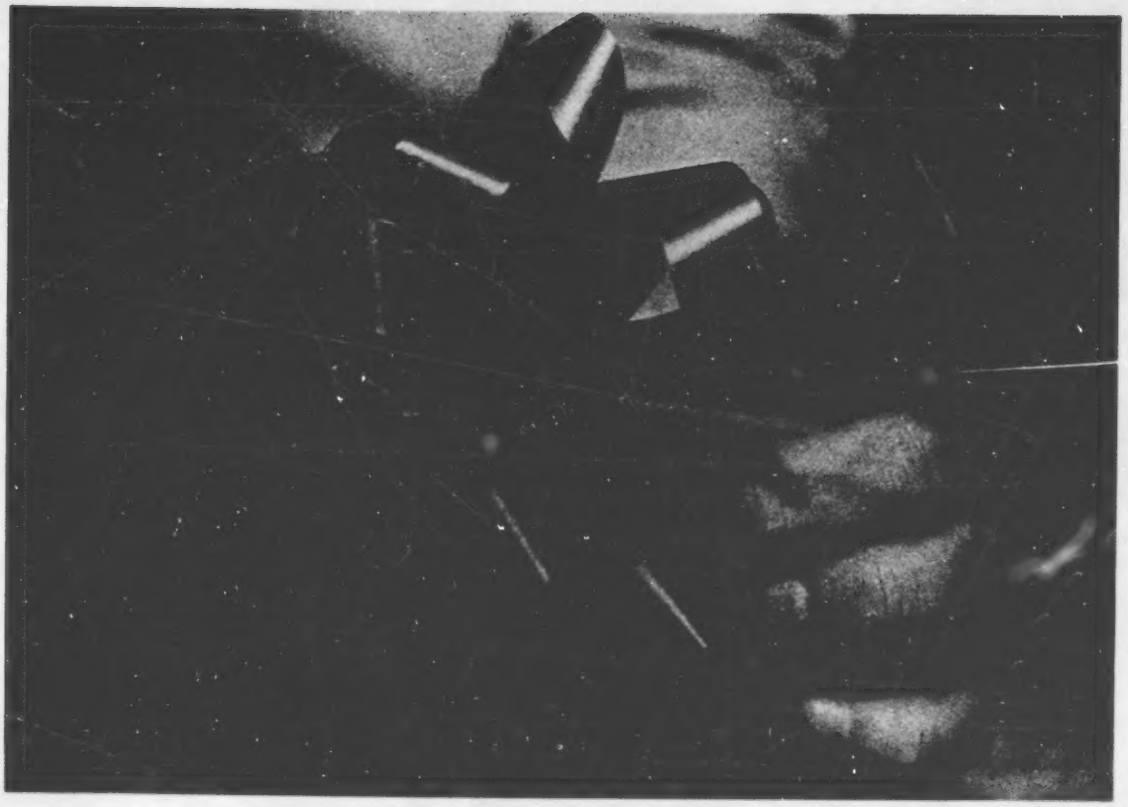
Picture 7

With a scissors, cut the ribbon on a slant. You are cutting the ribbon because you do not need to use any more of it. Your are not going to make any more loops.



Picture 8

Take a piece of florist wire which looks like the one in this picture. It has been bent over to look like a hairpin. You will have to bend this wire *before* you begin to make the bow so you don't have to let go of the bow to bend the wire. If you let go of the bow now it would come apart.



Picture 9

While you are still holding the bow between your thumb and forefinger take the florist wire with your other hand and slide it through the middle of the bow. The middle of the bow should be up against the rounded end of the wire. The two ends of the wire will stick out the other side of the bow just like in this picture.

Picture 10

Hold the bow very tightly with one hand. With your other hand pull the rounded end of the wire tightly against the middle of the bow and give two full twists to lock the wire in place. This picture shows you how to twist the wire.

74

Picture 11

This picture shows how the bow looks after it is all finished.
It is ready to be used in a corsage after the wire is taped.

Making A Corsage
Teacher Instructions

Picture 1 The specific holiday trim in this picture includes millimeter balls on pipe cleaners and cedar greenery. You may want to discuss with your students other types of holiday trim which might be used in a corsage of this type.

Picture 2 If taping has not yet been attempted by your students, you might want to consider teaching this technique as a separate lesson before going on to the lesson making a corsage. It is suggested that *main interest point* or *focal point* of the corsage be discussed. You might also wish to discuss how to choose the focal point of a corsage and the main flower of the corsage.

Picture 3 No special instructions.

Picture 4 It is likely that the students will need a demonstration of taping one tape width.

Picture 5 The stem of the cedar is taped completely not only so that it looks finished, but also to prevent sap or pitch from the cedar from staining the clothing of the corsage wearer. Cedar backing and greenery are interchangeable terms.

Picture 6 No special instructions.

Picture 7 No special instructions.

Picture 8 The individually taped components are fitted very closely together to form a compact looking corsage.

Picture 9 No special instructions.

Picture 10 The flower stems always point to the focal point (in this case, the bow) of the corsage.

Picture 11 It is suggested that the technique of bending the flowers and greenery in order to position them properly in the corsage be reviewed.

Picture 12 No special instructions.

Picture 13 No special instructions.

Picture 14 No special instructions.

Picture 15 It is suggested that you discuss placing the millimeter balls in a triangular position around the focal point of the bow so that the concept is clear to the students.

Picture 16 If a clean cut is not carefully executed, there is a possibility of stem ends *fishhooking* or bending back up. This might cause tearing or snagging of the clothing of the corsage wearer.

Picture 17 No special instructions.

Making A Corsage

Picture 1

Here are the things you will need to make a corsage: florist tape, florist wire, holiday trim, a bow, flowers and greenery. This greenery is cedar.

Picture 2

Tape the wire stem ends of the bow and flowers that you will be using. The bow will be the main interest point of the corsage. Pick up the bow and one of the flowers. The bow is placed underneath and in front of the main flower of the corsage. This picture shows the beginning of the corsage from the *back.*

Picture 3

This picture shows what the bow and main flower look like from the *front*.

Picture 4

The bow stem and the flower stem are taped together but only one tape width. They are not taped together all the way down the stems.

Picture 5

A piece of cedar greenery is put behind another flower and then the two pieces are taped together. This time the two stems are taped all the way down the length of the stems.

Picture 6

A bud or smaller flower is now added to the flower and cedar backing that you taped in the last step.

Picture 7

You can see in this picture that the smaller flower and the other flower with the cedar backing are taped together only part way down the stems. You just want to tape them enough so that they all stay together in one bunch.

Picture 8

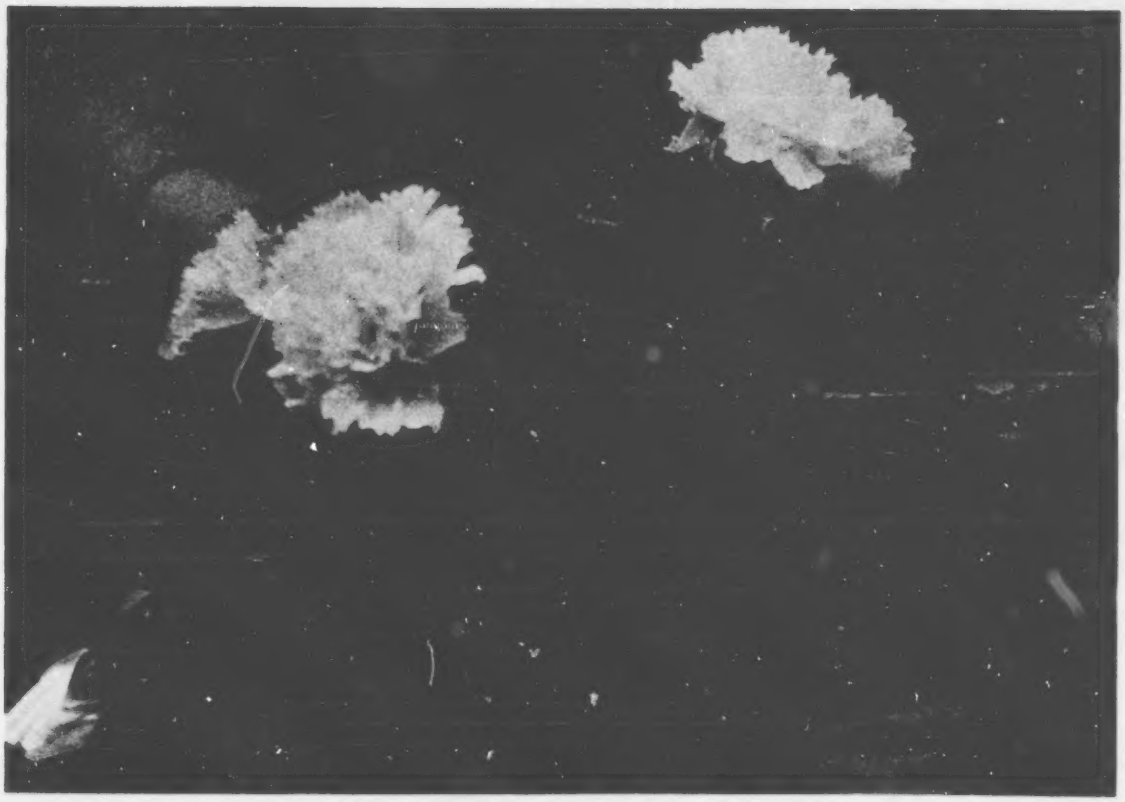
Now take the flower with the bow that you taped before, and the flowers with the cedar backing. Put them very close together and tape them together just one tape width.

Picture 9

Add a flower to the side of the corsage. Tape the flower stem to the other stems one tape width. The flower that was added is the large white one on the left side of the photograph.

Picture 10

Another flower is added to the corsage right underneath and back against the bow. In this picture you can see it right above the thumb of the person who is making the corsage. Since each flower has a wire stem, the flower can be bent so that it faces forward. Tape this flower to the rest of the corsage one tape width.



Picture 11

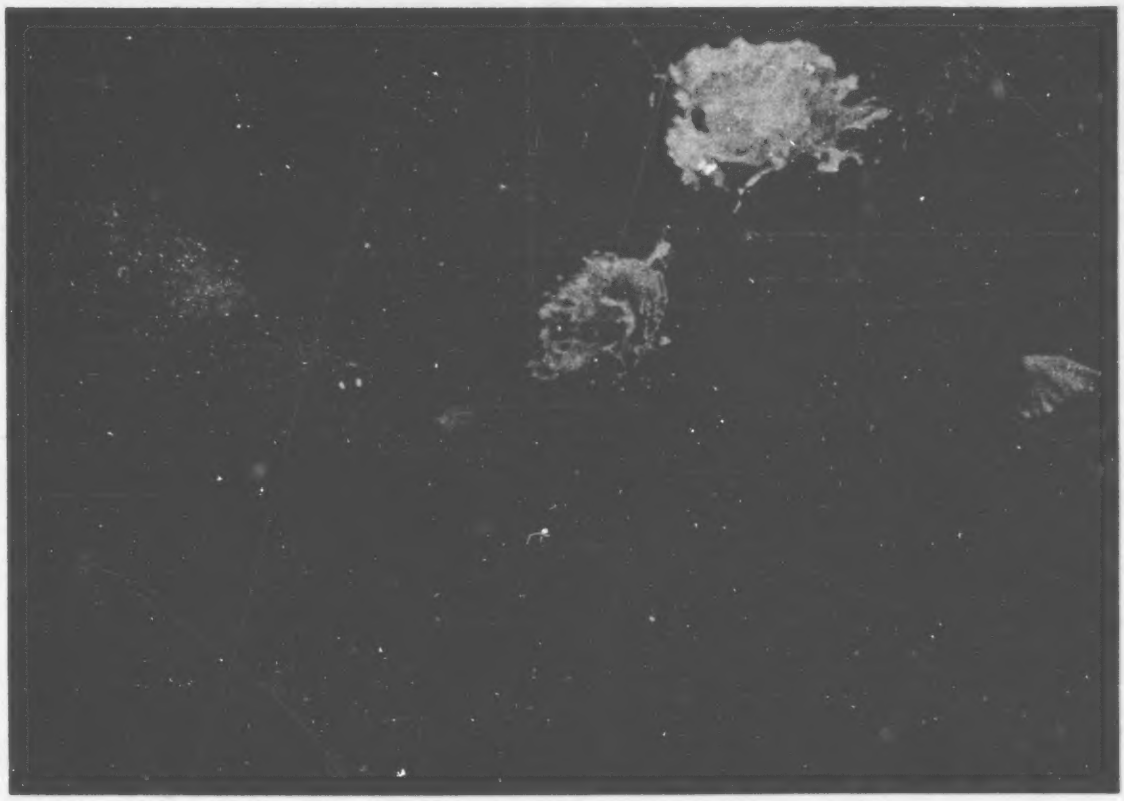
The final flower is now added underneath the last flower that was put into the corsage. Notice in this picture that cedar backing was taped to the stem of this white flower. Tape this flower to the rest of the corsage one tape width.

Picture 12

More cedar greenery can be added to make a background for the corsage. The cedar must be wired and taped first, just like the other flowers you used in making the corsage. Always add the cedar underneath the corsage and bend it so that it fits in the place you want it to go.

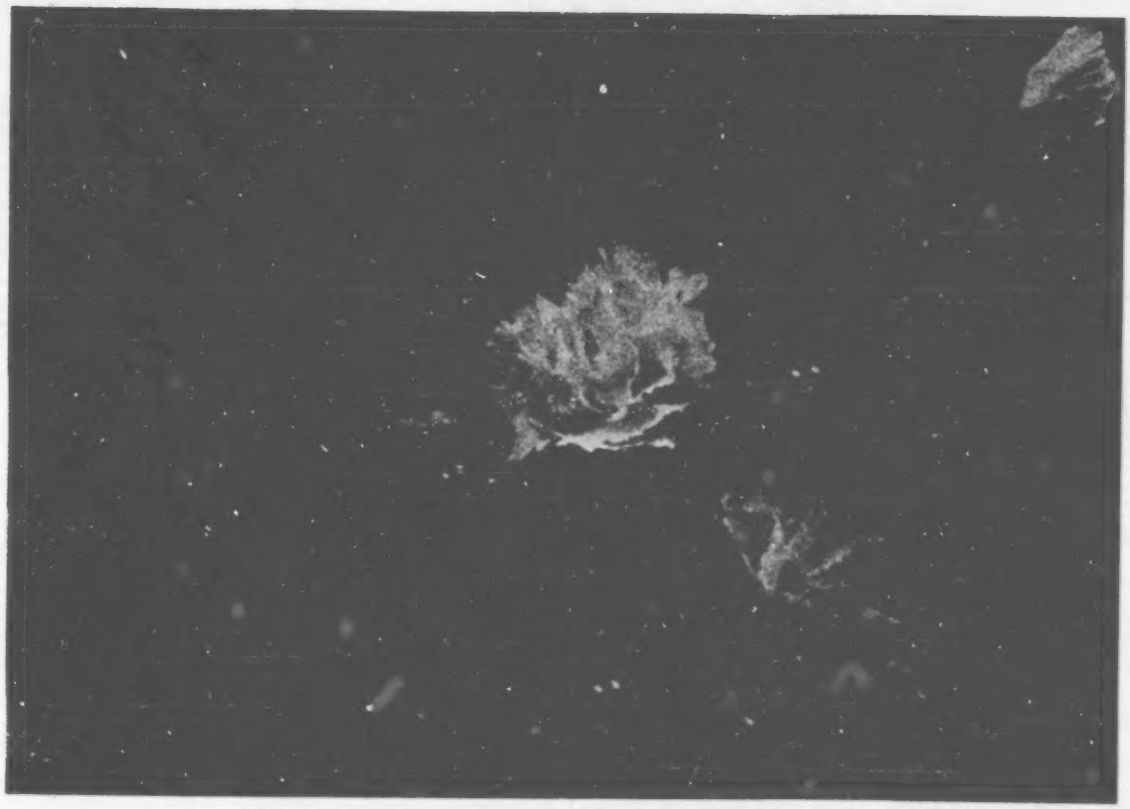
Picture 13

This is what the corsage should look like before the holiday trim is added. If you look closely you will see that the cedar greenery has been added from underneath the corsage and is always behind the flowers. It is never in front of the flowers.



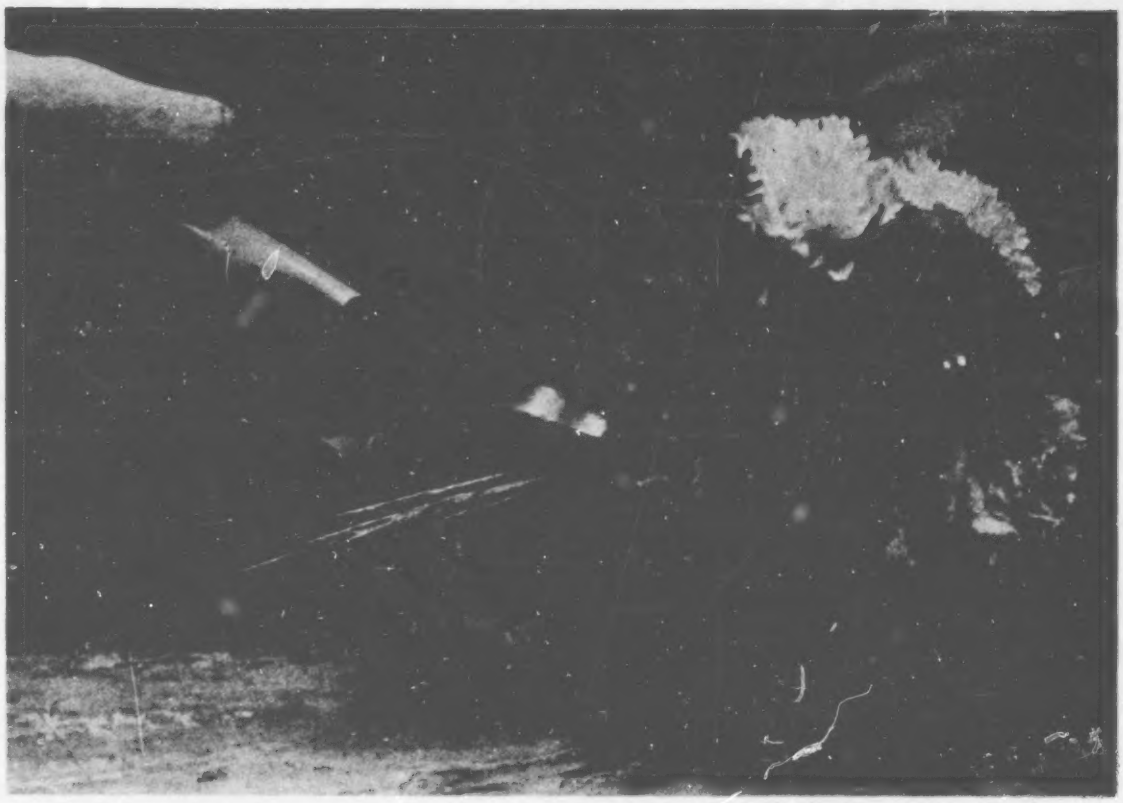
Picture 14

This is a millimeter ball on a pipe cleaner. It is special Christmas trim which is sometimes used to add color to the corsages.



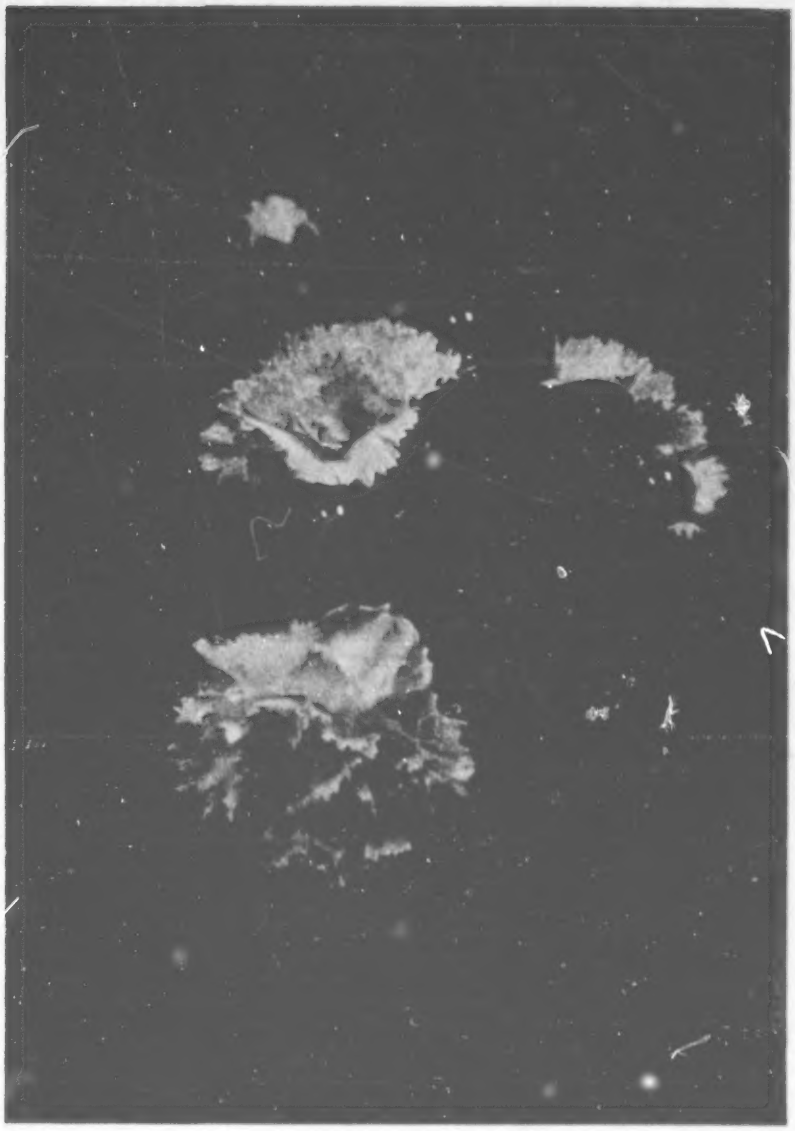
Picture 15

Take three millimeter balls by the pipe cleaner stem and put them around the main interest point of the corsage, the bow. They should be equally far apart. Tape each one to the rest of the corsage one tape width.



Picture 16

After you have finished adding materials to the corsage cut the stems at an angle with a wire snips or florist shears. Be sure that you make a clean cut and that there are no sharp or bent wire ends sticking out.



Picture 17

This last photograph shows the finished corsage. The bow, flowers and holiday trim are arranged closely together with the cedar greenery behind them.

Pricing Artificial Material
Teacher Instructions

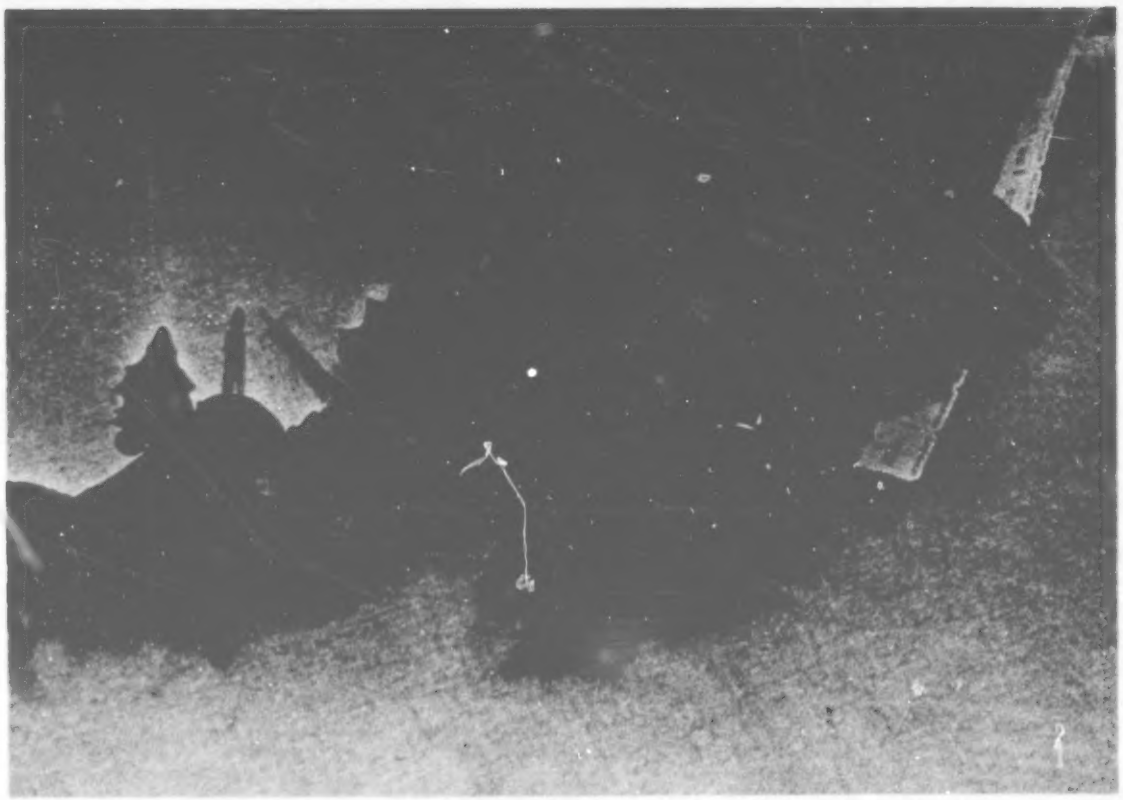
Picture 1 Price tagging is accomplished either by machine or by hand. The latter is illustrated in this set of photos. Usually tickets are used in pricing, but sometimes tags with short strings are price marked and then tied to an item. It is important to stress that the students use clear, legible handwriting. You may want to review with the students a variety of artificial materials which must be tagged before being sold.

Picture 2 The term *tag, ticket,* and *sticker* are interchageable. It is suggested that one term be used consistently throughout the teaching of this lesson.

Picture 3 Pricing tickets placed directly on artificial flowers will usually not hold due to the surface texture of the material. Also, not all artificial materials will have labels on which to put the price ticket.

Picture 4 When pricing a piece of pottery or a vase, the ticket is placed on the inside or on the bottom in order to prevent the adhesive from marking the finish.

Pricing Artificial Material



Picture 1

In this picture the woman is writing prices on tickets which come on a long roll. Gather together all of the materials that you want to price. Write the correct price on the ticket with a ballpoint pen. It is important that you write very clearly.

Picture 2

After the right price is marked on the ticket, the ticket is taken off the strip. The back of the ticket is sticky so you do not have to use glue or tape to make it stay on the artificial material.

Picture 3

The ticket which was taken off of the strip is now placed on the label of the floral stem as shown in this picture.

Picture 4

This last picture shows you what the ticket should look like when it is put on right. You can see that the ticket is smooth, easy to read, and attached to the label so it will not fall off.

Appendix A

FULL TIME WISCONSIN AGRICULTURAL OCCUPATIONS

Agriculture Service Employment & Educational Needs
Artificial Insemination Employment & Educational Needs
Auctioneer/Auction Markets Employment & Educational Needs
Banks/Financing Employment & Educational Needs
Building Contractors Employment & Educational Needs
Building Materials Employment & Educational Needs
Cheese/Cheese Factories Employment & Educational Needs
Concrete Employment and Educational Needs
Dairies/Creameries Employment and Educational Needs
Dairy Equipment and Supplies Employment & Educational Needs
Dairy Products Employment & Educational Needs
Excavating/Excavating Equipment Employment & Ed. Needs
Farm Equipment-Implement Employment & Educational Needs
Farm Equipment Non-implement Employment & Educational Needs
Farm Supply Employment & Educational Needs
Feed/Seed Employment & Educational Needs
Fertilizers Employment & Educational Needs
Food/Food Processing Employment & Educational Needs
Forest Products Employment & Educational Needs
Horticulture Employment & Educational Needs
Live Stock Employment and Educational Needs
Meats Employment and Educational Needs
Rendering Companies Employment and Educational Needs
Trucking Employment and Educational Needs
Veterinary Employment and Educational Needs
Miscellaneous Employment and Educational Needs

PART-TIME AND SEASONAL WISCONSIN AGRICULTURAL OCCUPATIONS

Agriculture Service Part Time & Seasonal Employment Needs
Artificial Insemination Part Time & Seasonal Employment Needs
Auctioneer/Auction Markets Part Time & Seasonal Employment Needs
Banks/Financing Part Time & Seasonal Employment Needs
Building Contractors Part Time & Seasonal Employment Needs
Building Materials Part Time & Seasonal Employment Needs
Cheese/Cheese Factories Part Time & Seasonal Employment Needs
Concrete Part Time and Seasonal Employment Needs
Dairies/Creameries Part Time & Seasonal Employment Needs
Dairy Equipment & Supplies Part-Time & Seasonal Employment Needs
Dairy Products Part Time & Seasonal Employment Needs
Excavating/Excavating Equipment Part Time & Seasonal Employment Needs
Farm Equipment-Implement Part Time & Seasonal Employment Needs
Farm Equipment-Non Implement Part Time & Seasonal Employment Needs
Farm Supply Part Time and Seasonal Employment Needs
Feed/Seed Part Time & Seasonal Employment Needs
Fertilizer Part-Time and Seasonal Employment Needs

Food/Food Processing Part Time and Seasonal Employment Needs
Forest Products Part Time & Seasonal Employment Needs
Horticulture Part Time & Seasonal Employment Needs
Livestock Part Time and Seasonal Employment Needs
Meats Part Time & Seasonal Employment Needs
Rendering Companies Part Time & Seasonal Employment Needs
Trucking Part Time & Seasonal Employment Needs
Veterinary Part Time & Seasonal Employment Needs
Miscellaneous Part Time & Seasonal Employment Needs
Occupational Extension Courses-Business
Occupational Extension Courses-Animal Science
Occupational Extension Courses-Crops & Soils
Occupational Extension Courses-Ag Engineering

Myrick, Joe L. Determining Adult Agribusiness Training Needs In Northeast Wisconsin. Final Report, Project Number 11-035-151-22B, Cleveland, Wisconsin, Lakeshore Technical Institute, 1978.

Appendix B

Part-Time and Seasonal Employment Needs for 74
Horticultural Businesses in Northeast Wisconsin

1978

JOB TITLE	PART-TIME EMPLOYEES	SEASONAL EMPLOYEES	MONTHS WORKED SEASONAL AND PART-TIME EMPLOYEES											
			Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
BOOKEEPER		1			X								X	
CLERICAL	8	18			X			X					X	X
TRUCK DRIVER	2													
FIELD MAN	1							X		X				
WAREHOUSE		13					X			X			X	X
LABORERS	4	9			X	X					X			X
MECHANICS	3	5			X								X	
NURSERY WORKER	23	54			X	X	X	X	X	X	X	X	X	X
PARTS	1													
SALES	9													

Appendix C

Employment and Educational Needs For 74
Horticulture Businesses In Northeast Wisconsin

1978

JOB TITLE	NO. OF FULL-TIME PEOPLE NOW	NO. OF VACANCIES TRYING TO FILL NOW	BUSINESS SIZE FOR NEXT 5 YEARS		NO. INCREASE OR DECREASE	EDUCATIONAL NEEDS				
			SAME SIZE	INCREASE	DECREASE	8TH GRADE	HIGH SCHOOL	B.S.	TECH. TRNG.	WORK EXPRNCE	NO PREF
BOOKKEEPER	3		2				1		1		
CLERICAL	14	1	6	2	4		1		2	3	
CONSTRUCTION	3			1	1						
TRUCK DRIVER	2		1	1	1		1				
FIELD MAN	2			1	3				1		
WAREHOUSE	11		1						1		
LABORERS	2		1	1	4		2				2
MANAGEMENT	43		15	6	15		2	5		6	
MECHANICS	4	1		2	2		1			1	
NURSERY WORKER	113	5	11	11	29	1	5	1	5	10	2
PARTS	2			1	1		1				
SALES	27		1	10	14		2	1	2	5	
TOTAL	226	7	38	36	74	1	16	7	12	25	4

Appendix D

SOME HORTICULTURAL REFERENCES FOR WORKING WITH HANDICAPPED STUDENTS

Bardach, Joan L. "Some Principles of Horticultural Therapy with the Physically Disabled" New York, New York University Medical Center Institute of Rehabilitation Medicine, 1975.

Brandhorst, Kyle and Nancy Miller. "Green Serendipity: a Handbook of Unexpected Horticultural Discoveries," Mentor, Ohio, The Holden Arboretum.

Brooks, Howard D. and Charles J. Oppenheim, Horticulture as a Therapeutic Aid, New York, Institute of Rehabilitation Medicine, New York University Medical Center, 1973.

Burlingame, Alice Wessels. Hoe for Health, Birmingham, Michigan, 1974.

"A Catalog of Performance Objectives, Criterion-Referenced Measures and Performance Guides for Nursery Production," Vocational-Technical Education Consortium of States, 1977.

Chigier, E., "The Use of a Group Approach in the Rehabilitation of Severely Retarded Adolescents in Agriculture in Israel, " Tel Aviv, Israel, Israel Association for Rehabilitation of Mentally Handicapped, October, 1970.

Coorsh, Richard P., Gale D. Snoddy and Paula D. Relf, Ph.D., "Funding Sources for Horticultural Therapy Programs," Mt. Vernon, Virginia, National Council for Therapy and Rehabilitation through Horticulture, 1978.

Cummings, William Joseph, III, Gale D. Snoddy and Paula D. Relf, Ph.D., "Innovative Horticultural Therapy Programs," Mt. Vernon, Virginia, National Council for Therapy and Rehabilitation through Horticulture, 1978.

"Directions '78'," 6th Annual Conference, Topeka, Kansas, National Council for Therapy and Rehabilitation through Horticulture, September, 1978.

Gerling, Alan R., Greenhouse Management: A Curriculum Guide for Special Needs, Olympia, Washington, Olympia Public Schools, 1976.

"Greenhouse Operations I," Fox Valley Technical Institute, Appleton, Wisconsin.

"Grounds Keeper - Vocational Rehabilitation Vocational Training Curriculum," Auburn, Alabama, Auburn University School of Education, Department of Vocational, Technical and Practical Arts Education.

Hopkins, Betty T., "HORTICULTURE I: A Curriculum Manual," Santa Fe, Vocational-Technical Division, New Mexico State Department of Education, 1975.

Hopkins, Betty T., "HORTICULTURE I: A Curriculum Manual, INSTRUCTOR," Santa Fe, Vocational Technical Division, New Mexico State Department of Education, 1975.

Hopkins, Betty T. "HORTICULTURE II: A Curriculum Manual," Santa Fe, Vocational-Technical Division, New Mexico State Department of Education, 1975.

Hopkins, Betty T., "HORTICULTURE II: A Curriculum Manual, INSTRUCTOR," Santa Fe, Vocational Technical Division, New Mexico State Department of Education, 1975.

"Horticultural Therapy Aide," Belmont, Massachusetts, Contract Research Corporation.

Morrill, Dr. Glenn J., "A Catalog of Performance Objectives, Criterion-Referenced Measures and Performance Guides for Floriculture Workers," Vocational-Technical Education Consortium of States, 1977.

National Council for Therapy and Rehabilitation through Horticulture, Lecture and Publication Series, Vol. 3, Issue 5, Mt. Vernon, Virginia, December 1977.

National Council for Therapy and Rehabilitation through Horticulture, Membership Directory, Vol. 5, Issue 11, Mt. Vernon, Virginia, November, 1978.

National Council for Therapy and Rehabilitation through Horticulture, Newsletter, Vol. 5, Issue 10, Mt. Vernon, Virginia, October, 1978.

National Council for Therapy and Rehabilitation through Horticulture, Newsletter, Vol. 5, Issue 12, Mt. Vernon, Virginia, December, 1978.

"Nursery Worker - Vocational Rehabilitation Vocational Training Curriculum," Auburn, Alabama, Auburn University School of Education, Department of Vocational, Technical and Practical Arts Education.

Olszowy, Damon R., Ph.D., Horticulture for the Disabled and Disadvantaged, Springfield, Illinois, Charles C. Thomas, 1978.

Preparing E.M.R. Students for Vocational Horticulture: A Curriculum Guide for Secondary School Teachers, Richmond, Virginia, Division of Vocational Education, Virginia State Department of Education, 1976.

Relf, Paula D., Ph.D., Gale D. Snoddy, et al., "A Study of Horticultural Therapy in Fairfax County, Virginia," Mt. Vernon, Virginia, National Council for Therapy and Rehabilitation through Horticulture.

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Snoddy, Gale and Paula Diane Relf, Ph.D., "Organizing a Horticultural Therapy Workshop," Mt. Vernon, Virginia, National Council for Therapy and Rehabilitation through Horticulture, 1978.

Tucker, Terry, et al., "A Career As a Farm Worker," Dickinson, North Dakota, Dickinson Public School District, Instructional Media Center, 1975

Wotowiec, Peter J., The Greenhouse Worker, Columbus, Ohio, The Ohio Agricultural Education Curriculum Materials Service, 1974.

Appendix E

Universities in the United States which offer Horticultural Therapy programs

Offers a degree in Horticultural Therapy

Kansas State University
Dept. of Horticulture
Manhattan, KS 66502
Attn: Dr. Richard H. Mattson

Universities that offer an option within a degree in Horticultural Therapy

Clemson University
Dept. of Horticulture
Clemson, SC 29631
Attn: Dr. T. L. Senn

University of Georgia
Dept. of Horticulture
Athens, GA 30601

University of Maryland
Dept. of Horticulture
College Park, MD 20742

University of Massachusetts
Dept. of Horticulture
Amherst, MA 01002

Michigan State University
Institute of Agricultural Technology
Dept. of Horticulture
East Lansing, MI 48823

Ohio State University
Dept. of Horticulture
Wooster, OH 44691

Texas Tech University
Dept. of Plant and Soil Science
Lubbock, TX 79409
Attn: Dr. George Tereshkovich

Virginia Polytechnic Institute
& State University
Dept. of Horticulture
Blacksburg, VA 24060
Attn: Dr. Diane Relf
(Under development)

Two year programs

Charles County Community College
Mitchell Road
Box 910
La Plata, MD 20646

Iowa Lakes Community College
Agricultural Education
3200 College Drive
Emmetsburg, IA 50536

Meramec Community College
11333 Big Bend Boulevard
St. Louis, MO 63122

This list was provided by the National Council for Therapy and Rehabilitation Through Horticulture. Mt. Vernon, Virginia 22121

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WISCONSIN VOCATIONAL STUDIES CENTER

The Wisconsin Vocational Studies Center at the University of Wisconsin-Madison was reorganized with the support of the Wisconsin Board of Vocational, Technical and Adult Education within the School of Education in 1971. The function of the Center is to serve the State of Wisconsin in a unique way by bringing the resources of the University to bear on identified problems in the delivery of vocational and manpower programs-vocational education, technical education, adult education, career education, manpower training-to citizens of all ages in all communities of the State. The Center focuses upon the delivery of services including analyses of need, target groups served, institutional organization, instructional and curriculum methodology and content, labor market needs, manpower policy, and other appropriate factors. To the extent that these goals are enhanced and the foci of problems widened to encompass regional and national concerns, the Center engages in studies beyond the boundaries of the State.

Merle Strong, Director
Roger Lambert, Associate Director

Wisconsin Vocational Studies Center
University of Wisconsin-Madison
964 Educational Sciences Building
1025 West Johnson Street
Madison, Wisconsin 53706